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BASAL METABOLISM DETERMINATIONS IN GENERAL INTERNAL DIAGNOSIS

CLINICAL APPLICATION, WITH ILLUSTRATIVE CASES

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Basal metabolism determinations have been placed on a practical clinical basis by the Benedict[1] method. The general physiologic and clinical significance of fluctuations in the metabolic rate is now also well understood. The next step is for clinicians to work out the range and value of their clinical application in suitably selected cases in routine diagnostic work. This is really the "touchstone" of any diagnostic method. Unless its clinical value can be shown to be commensurate with the time, labor and equipment required, and in this instance these items are rather large, it cannot and should not endure. This paper is offered as an additional contribution to this end.

It may fairly be said that the basal metabolism test rests on an established scientific basis. The main facts were quite fully understood for a quarter of a century before they became clinically applicable outside of institutional work. There is little that is new except the introduction of clinically practical methods.

This method of investigation involves more than simply the thyroid problem. The entire endocrine system, as yet so little understood and so difficult of interrogation, is involved, and stands in pressing need of both clinical and scientific investigation. It is not, indeed, limited to the endocrine system, as a careful consideration of all the facts will make perfectly obvious. For instance, if the thyroid gland is completely removed, the basal metabolism drops only 40 per cent. below the average normal, where it remains substantially constant. The question as to what keeps the basal metabolism up to this level instead of dropping to zero, considerably short of which would be death, is discussed by Kendall.[2] While it is not fully understood, he believes that amino-acids, proteins, creatin, creatinin, and probably other substances, play an important rôle in the stimulation and regulation of the basal metabolic rate. There seems to be no doubt that other members of the endocrine system play with thyroxin a synergistic rôle, while, of course, other bodies known and unknown, with entirely different physiologic effects, may have to be considered. This is undoubtedly true of the suprarenals. Tompkins, Sturgis and Wearn,[3] for instance, have shown that there is a marked increase in the basal metabolic rate, after the hypodermic administration of 0.5 c.c. of 1:1,000 solution (about 0.5 mg.) of epinephrin, amounting to 15 or 20 per cent. The modus operandi of epinephrin in the production of increased basal metabolism is probably quite different from that of thyroxin, and the effect is strikingly less in degree. These investigators attribute to the effect of epinephrin on the sympathetic autonomic nervous system the tremor and increased general muscular tonicity, the disturbed carbohydrate metabolism, and in some cases —but not all—the increased cardiac activity.

There is also the possibility that other endocrine hormones aside from the thyroid produce their effect on metabolism indirectly through the thyroid by neurocirculatory influences on the thyroid gland. Thyroxin, on the other hand, according to Plummer,[4] acts directly on all body cells. What has been said of the effect of epinephrin on the metabolic rate is probably true, though to a much smaller extent, of the pituitary, parathyroid, and pancreatic internal secretions.

A careful review of all the facts will, I think, convince any one that the one important controlling factor in the regulation of basal metabolism is thyroxin, on which the functional activity of the thyroid gland is largely, if not altogether, dependent. We are entirely ignorant at present of the identity of any other toxic substance, though some think there may be modification of the thyroxin molecule in some cases of exophthalmic goiter, or possibly even other endocrine hormones synergistic with or quite dissimilar to thyroxin.

The important question bearing on this clinical study is the dependability of fluctuations of the basal metabolic rate as an indication of thyroid activity; and this would obviously depend on whether the modified thyroxin molecule, if such exists, or possibly other unknown hormones, would retain the specific autocoid effect of the thyroxin molecule on cellular metabolism, or might possibly produce other toxic phenomena. Perhaps we cannot be too dogmatic on this point at present; but while recognizing the paramount position of the general clinical judgment in every case, variations in the metabolic rate as indirectly determined by the oxygen consumption must be regarded as the most scientific and practical index of thyroid toxicity.

In what group or groups of cases are the routine determinations of basal metabolism worth while? In general, this question may be thus answered:

1. In all cases of definite goiter, and especially if associated with health disturbances, to ascertain the degree, if any, of its toxicity.

1. Benedict, F. G.: A Portable Respiration Apparatus for Clinical Use, Boston M. & S. J. 178: 667 (May 16) 1918.
2. Kendall, E. C.: The Thyroid Hormone and Its Relation to the Other Ductless Glands, Endocrinology 2: 81 (April-June) 1918.
3. Tompkins, Edna H.; Sturgis, C. C., and Wearn, J. T.: Studies on Epinephrin, II, Arch. Int. Med. 24: 269 (Sept.) 1919.
4. Plummer, H. S.: The Function of the Thyroid, Normal and Abnormal, Tr. Assn. Am. Phys. 31: 128, 1916.

2. In a large group of cases either with or without goiter, with symptoms resembling, either closely or remotely, those of thyrotoxicosis.

In regard to the first group, whenever a patient has a goiter, large or small, and there is impairment of general health, whether the symptoms are typical of thyrotoxicosis or not, the toxicity of the goiter should be ascertained by the determination of the basal metabolism. This is especially true when considering the necessity for and character of therapeutic measures, surgical or medical. In any case with a goiter requiring a general diagnostic study, this accurate index of goiter toxicity should not be neglected. In judging of the operative risk in thyroidectomy, it is of the first importance. It appears to be true that this risk increases to an appalling degree when the metabolic rate attains an increase of around 100 per cent. Nonsurgical measures should be exhausted in such cases in an effort to reduce the metabolic rate before operation, if the latter is decided on. The success of therapeutic measures can now for the first time be accurately gaged by basal metabolism determinations, instead of depending on the notoriously unreliable clinical data, such as pulse rate or nervousness.

Equally important, and presenting great diagnostic difficulties, is the second group indicated. It does not matter much in the final judgment whether the patients have or have not a palpable thyroid. I have seen several cases in which the thyroid was very doubtfully palpable, with the metabolic rate increased more than 50 per cent. Much more important than the goiter is the history of the case and the character of the symptoms. Among the symptoms suggesting investigation along these lines may be mentioned:

1. Psychoneurotic disturbances.
2. Circulatory disturbances:
   (*a*) Tachycardia or bradycardia.
   (*b*) Cardiac myasthenias.
   (*c*) Certain arrhythmias.
3. Fine tremors.
4. Hyperhidrosis and hypohidrosis.
5. General debility.
6. Loss of weight.
7. Slight temperature disturbances.

Not one of the foregoing symptoms can be regarded as strongly diagnostic, much less pathognomonic, of hypothyroidism or hyperthyroidism. In fact, it is perhaps not too much to say that if the majority or perhaps even all of these symptoms were present in an individual case, it would still be possible that the syndrome could be due to something entirely aside from thyroid disease.

As a matter of course, if with these symptoms there are found a goiter and exophthalmos, the diagnosis of thyroid disease should be considered established. With the goiter alone this would not be so obvious, because if these symptoms, singly or collectively, can be due to causes other than thyroid disease, the presence or absence of a goiter would really prove nothing, although creating a strong presumption in favor of hypothyroidism or hyperthyroidism to be verified by subsequent investigations.

It is probably unnecessary to comment at length on the individual symptoms enumerated above. Taking, for instance, such of the symptoms as psychoneurotic instability and tachycardia, which may be regarded as the most characteristic symptoms of the thyroid syndrome, it is perfectly obvious that they may be due to causes of the most diverse character. Nervous or mental overstrain, various chronic infections, but especially syphilis and tuberculosis, and a great variety of pathologic conditions occurring in the various glandular organs of the body, malnutrition, from whatever cause, gastro-intestinal disturbances, and many other conditions must be kept in mind as possible explanations of such a symptom group. Their differentiation from thyrotoxicosis can usually be made with a certain degree of probability by the general clinical picture and the usual diagnostic methods for the recognition of these pathologic conditions. The final court of appeal, so far as the thyroid problem is concerned, however, is the determination of the basal metabolism, which furnishes the most reliable proof either for or against the existence of thyroid disease.

The following cases are selected because in them the metabolic rate furnished a more or less decisive factor in the diagnosis, which could not have been ascertained in any other way. In most, or perhaps all of these cases, unlike the outspoken cases of exophthalmic goiter or myxedema, the disturbances of metabolism that are always largely determined by thyroid activity were masked by or associated with other conditions which obscured the clinical picture. This, in fact, is the very reason why these cases are selected, in order to illustrate the practical clinical value of these methods.

REPORT OF CASES

CASE 1.—*Hypothyroidism and tonsillar infection.—History.*—Mrs. L., aged 28, complained of nervousness, general pains and enlargement of the neck. An older sister had goiter, but was now symptomless. In April, 1918, the patient had tonsillitis, followed in two weeks by "rheumatism." She had enlargement of the neck for many years, since she was 14; "misery" in the neck began about one year before I saw her, soon followed by general pains. She was in bed with "rheumatism" for three or four days, and had occasional "rheumatic" pain for several weeks afterward. She had "nervous" headaches, and became dyspneic when excited or on exertion. The goiter was symptomless until one year before when she had some pain up and down the spine and the back of the neck, and since then the goiter had annoyed her considerably. There had been no increase in size for a number of years.

Physical Examination.—The pulse was 72; the blood pressure, 135 systolic and 100 diastolic. There was a very slight tremor of both hands. The tonsils were moderately enlarged and cryptic. The urine was negative. Blood examination revealed: hemoglobin, 85 per cent.; red blood cells, 3,731,000; white blood cells, 7,200; polymorphonuclear neutrophils, 60 per cent.; small lymphocytes, 27 per cent.; large lymphocytes, 10 per cent.; transitional cells, 1 per cent., and eosinophils, 2 per cent. The Wassermann reaction was negative. The alimentary hyperglycemia test revealed: fasting, 120 mg. per hundred c.c. of blood; one hour after 100 gm. of glucose, 241 mg. per hundred c.c. of blood. 2 hours, 124 mg. per hundred c.c. of blood.

August 15, the basal metabolism was —29 per cent. The patient was put on 1 grain of thyroid extract, three times a day, at the beginning of the treatment. The basal metabolism eight days later, August 23, was still —30 per cent.; August 27, it was —11.3 per cent.; September 3, normal, and September 10, —11 per cent. September 16 the tonsils were enucleated, and found markedly infected. September 25 the basal metabolism was + 11.9 per cent.

This patient was referred for an opinion as to the advisability of a thyroidectomy which had been advised. She was told that the removal of the thyroid would probably have no influence on her general health, and she was placed on thyroid extract, as indicated above. The tonsillar infection was thought to have been an important factor in the case, so the tonsils

were removed. It illustrates the prompt effect of thyroid extract on basal metabolism which, together with the removal of the tonsillar infection, produced a marked improvement in the clinical condition of the patient. It will be noted that the basal metabolism dropped to — 11 per cent. after having reached the normal level, because the thyroid extract had been discontinued at that time. The alimentary hyperglycemia in this case is very interesting. The fasting blood sugar was somewhat high, and following the 100 gm. of glucose there was a very marked hyperglycemia, which illustrates the unreliability of alimentary hyperglycemia as a test for thyrotoxicosis. As stated elsewhere,[5] alimentary hyperglycemia is due to a variety of other causes aside from thyrotoxicosis, although present in practically every case of the last named condition, but occasionally present, as in this case, in hypothyroidism.

CASE 2.—*Hypothyroidism, with latent syphilis and old healed tuberculosis.—History.*—Mrs. X., aged 36, had had boils, headaches, general weakness, and abdominal distress, particularly after riding or walking, for a period of six years. The trouble began with an indefinite ache in the neck. The patient noticed also pustules on the head. She felt weak and sick at that time. Soon boils appeared all over the body, continuing for about six months, after which they were limited to the scalp and the right side of the face and neck. The treatment given was unsuccessful. On forced feeding the patient gained 45 pounds, and was free from boils for one and one-half months. Then they recurred and have persisted. Dull, sore, "gnawing" feeling across the epigastrium, having no relation to meals, came on with boils. Usually there was but one boil at a time, associated with small sores on the scalp. The patient had nausea most of the time and felt numb and weak. Abdominal distress had been aggravated since the marked increase in weight. She had frequent headaches. She also had nightmares, and was very nervous. There were no menstrual disturbances.

Physical Examination.—The blood pressure was 120 systolic and 80 diastolic; the pulse was from 85 to 100 and regular. There was diffuse tenderness over the left half of the abdomen, and more or less discomfort in the region of the appendix on deep pressure. A roentgenogram disclosed a stationary tuberculous process in the lungs, without pleural involvement. There was cecal stasis with a typical picture of spastic colitis in the transverse colon, and ulcerative colitis from the splenic flexure downward. The urine was negative. Blood count revealed: hemoglobin, 85 per cent.; red blood cells, 5,810,000; white blood cells, 8,600; polymorphonuclear neutrophils, 51 per cent.; small lymphocytes, 43 per cent.; large lymphocytes, 2 per cent.; transitional cells, 1 per cent., and eosinophils, 3 per cent. The Wassermann reaction was + + +.

Blood sugar, fasting, was 81 mg. per hundred c.c. of blood; urine sugar was 0; one hour after 100 gm. of glucose, 142 mg. per hundred c.c. of blood; urine sugar, + +; two hours after 100 gm. of glucose, 88 mg. per hundred c.c. of blood; urine sugar, +.

A test meal revealed: one hour, free hydrochloric acid, 8; total, 22; one and one-half hours, free hydrochloric acid, 10; total, 25.

The stool was negative.

Because of the tachycardia and nervousness, a basal metabolism determination was made, showing an increase of 53.4 per cent. We have, therefore, to deal in this case with an old tuberculous infection, together with a latent syphilitic infection, probably hereditary, and a moderately severe grade of thyrotoxicosis. The rational treatment of the case is thus clearly indicated, the basal metabolism determination furnishing the necessary proof of overaction of the thyroid gland.

CASE 3.—*Hypothyroidism.—History.*—Mr. A., aged 41, who complained of "liver trouble," had had erysipelas at the age of 3, and used to have attacks of headache associated with "torpid liver." About ten years before he began to notice constipation. He had attacks of nausea and vomiting every few weeks, gradually becoming worse. He was unable to do any work. He had constipation, with vague gastro-intestinal symptoms.

Physical Examination.—The pulse was 68; the blood pressure, 125 systolic and 95 diastolic. The urine was negative. Blood examination revealed: hemoglobin, 80 per cent.; red blood cells, 5,690,000; white blood cells, 8,200; polymorphonuclear neutrophils, 40 per cent.; small lymphocytes, 40 per cent.; large lymphocytes, 16 per cent; transitional cells, 1 per cent., and eosinophils, 3 per cent. The Wassermann test was negative.

The alimentary hyperglycemia test revealed: fasting 61 mg. per hundred c.c. of blood; urine sugar, negative; one hour after 100 gm. of glucose, 123 mg. per hundred c.c. of blood; urine sugar, + + +; two hours after 100 gm. of glucose, 115 mg. per hundred c.c. of blood; urine sugar, + +.

Roentgen-ray examination of the gastro-intestinal tract was negative.

A test meal revealed: one hour, hydrochloric acid, 72; total, 88; one and one-half hours, hydrochloric acid, 41; total, 61.

The stool showed many fatty acid needles and crystals, but was otherwise negative.

Aug. 6, 1919, the basal metabolism was — 11.3 per cent. The patient was given thyroid extract, one-fourth grain, three times a day.

August 26, the basal metabolism was + 20.1 per cent. Thyroid extract was stopped.

October 4, the basal metabolism was + 81.3 per cent. On his own initiative he had taken 3-grain doses of thyroid extract three times a day for some time. He was told to stop all thyroid.

October 10, the basal metabolism was + 32.5 per cent.

The clinical improvement occurring in this case was very marked. The patient had been unable to work for a year, and while neither the basal metabolism nor the pulse rate indicated any serious deficiency in thyroid secretion, I decided to make a clinical test. Aside from the clinical improvement that occurred, the most interesting feature of the case was the fluctuation of the basal metabolism in response to thyroid extract, reaching a point as high as +81.3 per cent. at one time. This occurred without any of the usual symptoms of "exophthalmic goiter," though the basal metabolism test placed it within the group of severe cases. This is explained by the very transient duration of the increased metabolism, which produces the characteristic symptoms only after a considerable period of time. The patient had some slight headache at the time when the basal metabolism reached its highest point, and was perhaps rather nervous. It should be remembered that the patient on his own initiative had taken 3 grain doses of thyroid extract for some time, which accounted for the rather extraordinary rise in basal metabolism. It will be noted that it dropped to +32.5 per cent. within twenty-four days after the medicament had been stopped. The marked clinical improvement in this case following thyroid medication, with very slight manifestations of hypothyroidism, seems to me to be a suggestive and interesting therapeutic observation. This patient has resumed his usual vocation with apparently normal health and nutrition.

CASE 4.—*Tuberculosis clinically simulating hyperthyroidism. —History.*—Miss R., aged 24, had headache, severe and constant, during waking hours, with general weakness. She had an acute attack of "influenza" Feb. 3, 1919, and was in bed ten days with nausea and vomiting, but with no fever. She had headache, which had continued since. The blood was examined in April, and the Wassermann reaction reported

5. McCaskey, G. W.: The Differential Diagnosis of Hyperthyroidism by Basal Metabolism and Alimentary Hyperglycemia, New York M. J. 110: 607 (Oct. 11) 1919.

positive. She had headache "all over the head," worse in the morning. There was throbbing all over the body at times.

Physical Examination.—The pulse was 100 to 115, the systolic blood pressure, 145, and the diastolic, 90. The temperature was 98.8. There was a definite enlargement of the thyroid, more of the left and middle lobes. There was tremor, both fine and coarse. The heart was rapid; there were no bruits; rhythm was normal; the left border of the heart was 1 cm. to the left of the nipple. Examination of the lungs disclosed impaired resonance and diminished breath sounds over the right apex. The basal metabolism was + 10 per cent. A roentgenogram disclosed evidence of early pulmonary tuberculosis. The urine was negative.

Blood examination revealed: hemoglobin, 70 per cent.; white blood cells, 9,800; polymorphonuclear neutrophils, 51 per cent.; small lymphocytes, 20 per cent.; large lymphocytes, 25 per cent.; transitional cells, 2 per cent., and eosinophils, 2 per cent. Blood sugar, fasting, was 97 mg. per hundred c.c. of blood; one hour after 100 gm. of glucose, 152 mg. per hundred c.c. of blood; two hours after 100 gm. of glucose, 134 mg. per hundred c.c. of blood. The Wassermann test was negative, on several examinations. The tuberculosis fixation test was + + +.

The stool was negative. The sputum was scant and mucopurulent; streptococci, + +; staphylococci, +; diplococci, +; influenza, +; pus cells, but no tubercle bacilli.

August 1, the patient was given 2 mg. of old tuberculin hypodermically, with no reaction; August 3, 5 mg. with no reaction; August 6, 8 mg. with a temperature of 101 +. The patient felt quite sick during the night; there was a definite general and local reaction.

The weight was 93 pounds, 10 pounds below normal.

In this case there were several of the most important symptoms of thyrotoxicosis, namely, a well marked tachycardia of 100 to 115, and definite fine tremor, together with moderate enlargement of the thyroid gland. There were also general debility, loss of weight, and moderate elevation of blood pressure, with the throbbing indicative of vasomotor disturbance, all of which fit in very well with the theory of thyroid intoxication. The temperature recorded for more than a week showed no elevation. Stereoscopic plates of the lungs revealed lesions which were evidently tuberculous. The physical signs, while not very definite, indicated a lesion, either recent or old, at the right apex. There was some expectoration, showing a mixed infection, as stated above, but no tubercle bacilli were found by the antiformin method. While the case was one in which there was fairly strong suspicion of a chronic infection, yet it was one also in which thyroid intoxication might very easily have played at least a coordinate rôle. This was ruled out by the basal metabolism determination, which was strictly within the normal range, although at the high limit. In such a case one must keep in mind the clinical fact of considerable fluctuation in the metabolic rate in cases of hyperthyroidism of any grade of severity. A single observation of this sort, therefore, must be interpreted with caution, and has the same value as any other single laboratory observation in regard to a fluctuating pathologic condition. In this respect it is probably on a par with a mild positive Wassermann reaction, which is frequently inconstant, or the occurrence of albuminuria or glycosuria. On the other hand, a definite tuberculin reaction, both local and general, together with corroborative roentgen-ray findings, a positive tuberculosis complement fixation test, and suggestive physical findings, seemed to justify the working diagnosis of a tuberculous infection as the principal factor in the case.

CASE 5.—*Hyperthyroidism; psoriasis; perverted carbohydrate metabolism.—History.*—Mrs. S., aged 46, was operated on two years before for disease of the appendix and ovaries. She developed blood poison, for which she was given serum. This caused a breaking out on the left foot and left side of the body. Rash came on over the whole body, lasted twenty-four hours and then disappeared. For months afterward she was troubled with small pus collections under the nails of both hands. Lesions of the left arm appeared fifteen months before I saw her and had persisted. Similar spots on the left foot dried up but never healed. They burned, but did not itch. The initial lesions were elevated, indurated patches, that soon turned to "blood blisters," and finally the patient picked them off. She stated that her temperature had not been under 100 for many months. She had occasional headache, some vertigo and dyspnea.

Physical Examination.—Sept. 10, 1919, the pulse was 96; blood pressure, systolic, 140; diastolic, 90; temperature, 100.2. There was a definite fine tremor of the hands. There was a symmetrical enlargement of the thyroid; the right lobe was quite palpable and hard. The cervical glands on the right side were palpable and tender. There was an enlarged epitrochlear on the left. There were no bruits or arrhythmia. There was definite edema of the ankles and legs, and general tenderness of the lower abdomen. Skin lesions, typical patches of psoriasis, were found on the left arm and left leg. Roentgen-ray examination of the heart and lungs was negative. The urine was negative. The teeth and tonsils were negative. Phenolsulphonephthalein: 41 + 14 = 55. The blood count Wassermann test and tuberculosis complement fixation were negative.

Blood sugar, fasting, was 108 mg. per hundred c.c. of blood; one hour after 100 gm. of glucose, 192 mg. per hundred c.c. of blood. The nonprotein nitrogen was 27.12 mg. per hundred c.c. of blood. After one week on a carbohydrate free diet, during which the blood sugar slowly dropped, the fasting blood sugar was 148 mg. per hundred c.c. of blood. The same diet was continued twelve days longer. The fasting blood sugar dropped to 86 mg. per hundred c.c. of blood, and continued so for a month, during which time the patient was under rather strict starch restriction (about 50 gm. a day). The basal metabolism was: September 12, + 41.5 per cent.; September 16, + 52 per cent.; September 20, + 49 per cent.

This case presents several interesting features aside from the moderately severe thyrotoxicosis demonstrated by several basal metabolism determinations. The hyperthyroidism itself may easily have been the result of the sepsis, residual evidence of which was found in a suppurating process in the left foot. The fasting blood sugar values are among the highest I have seen aside from cases of diabetes. It is of special interest to note that the hyperglycemia following 100 gm. of glucose amounted to an increase of only 24 mg., or about 14 per cent. of the fasting blood sugar value. The fasting hyperglycemia is not, in my opinion, even suggestive of thyrotoxicosis. It is reasonable to assume that the disturbances of carbohydrate metabolism indicated by a high fasting blood sugar content played an important rôle in the general pathology of the case, including the psoriasis, which, it may be added, improved remarkably on the regimen of starch restriction.

The thyrotoxicosis, whatever may have been its origin, probably played a considerable part in the general syndrome, and could have been recognized only by the basal metabolism determinations. Diabetes mellitus, which might have been suggested by the high fasting blood sugar content, was improbable because of the low blood lipoid content.

CASE 6.—*Hypothyroidism of puberty.—History.*—Miss P., aged 16, had choking sensations in the throat. About eight or nine months before the family noticed that she began to gain rapidly in weight. Symptoms began about six months before, and had been getting worse. For the past three or four weeks she had become nauseated at from 10 to 10:30 a. m., being relieved by eating lunch. The menses were normal.

Physical Examination.—The pulse was from 60 to 80. Roentgen-ray examination was negative. The urine was negative. The blood count was normal. The Wassermann test was + +. A test meal revealed: one hour, free hydrochloric acid, 32 degrees; total, 56; two hours, free hydrochloric acid, 20; total, 34.

December 24, the basal metabolism was —15 per cent.

The patient was given thyroid extract, one-eighth grain twice daily, which was followed by rapid improvement.

This case apparently belongs in the group described by Nobecourt[6] as "hypothyroidea of puberty," which he defines as a minor degree of thyroid insufficiency, a condition which he says is frequently encountered.

The positive Wassermann reaction must not, of course, be overlooked, and as a matter of fact this patient is one of an entire family suffering from various grades of hereditary syphilis. Of course, proper treatment is being given for this trouble.

CASE 7.—*Hyperthyroidism, with chronic hypertension.—History.*—Mr. K., aged 43, complained of nocturnal asthmatic attacks. He had had an acute illness, diagnosed as pneumonia, one month before. One year before, his health began to fail. He began to have some headache, and to lose weight. He had lost 30 pounds during the last year. For the last two years, and probably for the last four years, he had had high blood pressure, ranging from 170 to 200, but he had been getting along fairly well until his acute illness one month before. The trouble began suddenly while he felt in good health. One evening he had a sensation of difficult breathing, with wheezing in the chest, which got so bad that medical aid had to be called. His physician found him with distressing asthmatic dyspnea, and this had recurred every night, becoming very severe at times.

Physical Examination.—The pulse was 135, and regular. The systolic blood pressure ranged from 185 to 200, the diastolic from 130 to 145, indicating rather low pulse pressure. A systolic murmur was heard at the apex. There was an area of dulness over the manubrium. The urine showed some hyaline and granular casts, but the excretion of fluid and solids was within normal range. The blood was normal; the Wassermann test, negative.

June 23, 1919, the blood sugar, fasting, was 0.104; August 7, 0.121; one hour after 100 gm. of glucose, 0.233; two hours after 100 gm. of glucose, 0.140.

Roentgen-ray examination revealed definite dilatation of aortic arch, and enormous enlargement of the heart.

June 3, six days after the first examination, the basal metabolism was + 50 per cent.; July 3, + 70 per cent.; August 5, + 97 per cent. There was a distinct gallop rhythm.

The patient died, October 13.

This case is one of extraordinary scientific and clinical interest. Under rest and varied drug treatment the dyspneic attacks disappeared and the patient improved clinically in every respect. It will be noted that the basal metabolism at the outset indicated a moderate grade of thyrotoxicosis, which it was thought would yield under treatment. No goiter could be detected by us or by the clinicians at the Mayo Clinic, where the patient went later for an examination. He had, however, a very short, thick neck, and a goiter of considerable size might have escaped detection. The subsequent marked increase in basal metabolism is thus best explained by increasing thyroid toxicity. The case was such a typical one of chronic hypertensive cardiovascular disease that the thyroid factor would be pushed entirely into the background unless forced to the front by basal metabolism determinations. The etiologic relationship of the thyrotoxicosis to the cardiovascular disease could not under the circumstances have been determined, but a careful study of the case suggests, on the one hand, the possibility just indicated and, on the other hand, the desirability of carefully studying the basal metabolism in chronic hypertensive cases to determine the possible evolution of thyrotoxicosis.

CASE 8.—*Hyperthyroidism, syphilophobia.—History.*—Mr. S., aged 31, complained of being nervous and restless, and was always tired in the morning on arising. He had been "doctoring" for the past seven or eight years. He had had some palpitation and dyspnea, and was fully convinced that he had syphilis.

Physical Examination.—This was negative, except for fine tremor. Repeated Wassermann tests (four) were negative. The blood sugar, fasting, was 0.079; it was 0.152 one hour after 100 gm. of glucose, and 0.162 two hours after 100 gm. of glucose. The basal metabolism was + 41 per cent.

In this case the determination of the basal metabolism converted a syphilophobic patient into a thyrotoxic one, from the standpoint of diagnosis.

COMMENT

I had hoped to present a larger number of cases, with more abbreviated outline. It seemed advisable, however, to make the case records so complete that the diagnostic bearings of the basal metabolism "settings" would be reasonably clear, even though this made it necessary to omit other interesting cases. There are many aspects of the cases presented which could, I think, be further discussed with profit, but this is also precluded by the length of the paper. So far as I am concerned, this procedure has passed the experimental stage and has been assigned its place in my diagnostic armamentarium by the side of the roentgen ray, the electrocardiograph, serology, colorimetry, clinical chemistry, etc., to be used as occasion requires. While its precise limitations and scope will, of course, be more clearly defined with larger experience, and especially with a fuller knowledge of the endocrinopathies, the attainment of which will be greatly stimulated by its use, the information which it gives in certain cases appears to me indispensable, and cannot be otherwise accurately obtained.

409 West Main Street.

6. Nobecourt, P.: Le monde méd., November, 1919, p. 257.

THE TREATMENT OF BRONCHIAL ASTHMA

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The treatment of bronchial asthma is so much dependent on its etiology and a differentiation from other conditions which have similar symptoms, that it is mandatory that a short sketch of these necessary facts be presented before I enter on the main subject of this paper.

Bronchial asthma may be due to anaphylactic or reflex phenomena. It must be distinguished from asthmatic bronchitis, dyspnea due to cardiac decompensation, uremia, and obstructive dyspnea from inflammatory tissue, tumors or enlarged glands or organs in the lumen of the tracheobronchial tree or pressing on the outside of it. A proper physical examination, roentgenoscopy, urine and blood investigation and endoscopy will definitely exclude all the conditions mentioned except asthmatic bronchitis. The last can be excluded by the fact that it is not dependent on

anaphylaxis for its symptoms but on definite pathologic changes in the bronchial and peribronchial tissues, which may or may not be readily demonstrated by a roentgenogram.

These items must be determined before one can treat a case of asthma with hope of success:

1. Examination of the nose, throat and teeth, and roentgen-ray examination of the head to determine the presence or absence of pituitary enlargement, and disease in the alveolar processes of the jaws.

2. Search in other parts of the body for infected areas that may be possible sources of reflex irritation or absorption of toxic material, such as may occur from a diseased appendix, gallbladder, prostate, ovary, etc.

3. Bacteriology of the nasal discharges, pus from the tonsils and tooth sockets, bronchial secretions and stool. The suggestion for examining the stool bacteriologically may be open to criticism. I have had one case of colon bacillus anaphylaxis, and several other physicians within my acquaintance have seen similar cases. Furthermore, very often stools are encountered wherein colon bacilli have been partially or even completely replaced by other organisms, such as diphtheroids, unidentified gram-positive cocci, or pneumococci. Stools displaying these bacterial flora are an expression of an intestinal disturbance of bacterial origin which may or may not have a bearing on the bronchial asthma, and it would be unwise to overlook them. Suspensions of the individual bacteria isolated from the various secretions and discharges should be prepared for the purpose of making skin tests.

4. Skin tests with the autogenous bacteria as well as with stock bacterial proteins, epidermal and food proteins, and pollen. A patient has recently come to my notice who was found sensitive to the bacteria isolated from the nasopharynx, but not to the proteins of similar stock organisms. This has been found in other instances, but less strikingly, and is suggestive of a difference in the protein character in different strains of the same organism. Unless a patient is an infant and partaking of only a few foods, we deem it almost indispensable that the patient be tested with all available food proteins irrespective of the age of onset of the disease; for it has been found by us that a patient may be anaphylactic to certain proteins without exhibiting symptoms, and through some unknown reason develop asthma concomitant with or after some infectious disease, such as chronic ethmoiditis.

TREATMENT

Preventive.—In certain very definite instances, infants have been found to be anaphylactic to human milk from birth. Such a condition surely could not have been prevented, and is very unfortunate; however, the simple change from human milk to that of some other species, as cow's milk, will be followed by a complete restoration to the normal. Through some peculiar freak of nature, a child may show evidences of sensitiveness to cow's milk when it is fed such on the first occasion. In this instance the substitution of condensed or dried milks will, in the majority of instances, overcome what at first seems to be an unsurmountable difficulty. When a child is fed an article of diet for the first time, especially when there is a family history of asthma, urticaria, eczema, hay-fever, etc., it should be continued repeatedly and at frequent intervals and not sporadically; for in this way any anaphylaxis which a child might develop by occasionally feeding this particular food will be mitigated or obviated. Bacterial anaphylaxis is a demonstrable fact. It occurs as the result of intermittent absorption of the proteins of dead bacteria from infected areas. For this reason, and because the presence of an infection is a constant source of danger to the patient's health and life, all infected foci should be eradicated as soon as they are discovered. This particularly applies to infected nasal accessory sinuses, and infected tonsils and tooth sockets, for these areas are most commonly infected and form the basis for innumerable ills besides bacterial sensitiveness.

Climatic.—Only in cases of asthma due to pollen is climatic change of any value, and then it is important to select that locality in which the particular offending plant does not grow. In the vicinity of New York, Fisher's Island, Block Island, Fire Island and Beach Haven are particularly good, except when there is a breeze blowing from the land. More distant localities are of decided benefit, such as the higher levels of the Rocky Mountains, White Mountains and Adirondacks. It is utter folly for one suffering with asthma due to food or epidermal proteins to expect relief by changing climate, because the same conditions will prevail in the new locality as in the old. After a proper diagnosis has been made and suitable treatment instituted, a change of scene and air would be of inestimable value.

Specific.—Generally speaking, it must be said that if a patient is anaphylactic to any one food, that article of diet may be eliminated and the patient recover if there is not a complicating bronchitis, in which instance suitable bacterial vaccine therapy must be given. However, most of the cases cannot be included in this class for the simple reason that patients usually suffer from sensitiveness to more than one food, and in addition may have epidermal, pollen or bacterial anaphylaxis or a combination of all of them. Most foods, however, may easily be eliminated from the diet except milk, eggs and meat. In our experience, patients are not usually sensitive to casein but are sensitive to lactalbumin. By boiling the milk, the lactalbumin becomes coagulated and rises to the surface as a scum and then can be removed. Milk treated in this way can be taken with impunity. In the case of eggs and meats, one of two methods may be employed to desensitize the individual. One of these is the gradual feeding of increasing amounts of egg or meat, beginning with a very small dose. The threshold of reaction must be determined before the treatment is instituted. This may be accomplished by either determining the largest amount of these foods that can be taken by mouth without causing symptoms or by means of skin reactions, following the same technic as described in the treatment of pollen anaphylaxis. The other method is the gradual increase of doses of egg or meat given subcutaneously. Patients sensitive to potatoes may eat them baked, but not boiled or fried. Well toasted wheat bread and puffed wheat, but wheat in no other form, may be partaken. It has been my experience and also that of others working in this field that occasionally a patient may not be sensitive to whole wheat but be anaphylactic to one or more of the individual proteins in wheat. For this reason it is essential that patients be tested with all of the five proteins isolated from wheat. I have observed that when a patient abstains from an article of food for some time, the skin reaction shows less sensitiveness, or no reaction is obtained. Under these circumstances it might be well to have the patient again partake of this food, as he or she may no longer have symptoms from it.

The treatment of bronchial asthmatics who are sensitive to epidermal proteins is very satisfactory, and it is in this class of cases that we procure our most striking results. Patients suffering from anaphylaxis due to cat hair, dog hair, mouse hair, chicken feathers, goose feathers and the feathers of pet birds, such as canaries and parrots, have no symptoms when they are removed from contact with these. When occupation

demands that a person be constantly in contact with the particular epidermal protein that is causing his asthma, such as in the case of furriers and cattle dealers, one of two things may be done; either the patient must change his occupation or be immunized against the particular offending substance; but, in my opinion, it would be necessary for him to discontinue working in that particular field while undergoing treatment. Patients suffering with horse dandruff anaphylaxis, if not very sensitive to horse dandruff, may be comparatively free from symptoms by avoiding contact with horses, or, if they reside near a stable, by changing their residence. For those patients who are sensitive to horse dandruff, in dilutions of the protein weaker than 1: 500, desensitization treatment gives wonderful results, the patient usually showing improvement after a few treatments. It has been my experience that the effects of desensitization in horse dandruff cases is not permanent and has to be repeated from time to time. However, fewer treatments are necessary than in the first instance. The same rules as regards the determination of dosage are to be applied here as in the case of pollen anaphylaxis.

Patients may be sensitive to bacterial proteins alone or to other substances besides. Some patients having uncomplicated bronchial asthma show a very decided sensitiveness to certain bacteria. If the bronchial asthma is complicated by chronic bronchitis, the patient may or may not be sensitive to the predominant organism found in the sputum. When the bronchial asthma is complicated by chronic bronchitis, and there is no evidence that the bacteria found in the sputum are producing the asthmatic symptoms by virtue of sensitization, vaccines made from the organisms found should be of inestimable value when combined with the other measures for treating this disease. In some instances, it may be necessary to give three courses of hypodermic treatment at the same time; for instance, when a patient is suffering from chronic bronchitis and an important food and epidermal protein anaphylaxis. If the patient is sensitive to any of the bacteria found in the various discharges or secretions, it is very important not to overdose the patient with the vaccines made from these organisms. It has been my experience that patients suffering with bacterial anaphylaxis, and who are receiving vaccines made from the offending bacteria, do not as a rule exhibit local swelling, redness and pain where the injection is given, but suffer certain general symptoms which are akin to the milder or severer forms of anaphylaxis. For instance, a patient who is under my care at present has had an attack of nausea one-half hour after each injection, and in one instance vomited, six or seven hours later had a chill followed by fever, and a typical severe attack of asthma supervened without there being the slightest evidence of local reaction. It is extremely important, therefore, that the initial dose of bacteria should not be more than twenty million, and not increased more than twenty millon each time and at not a shorter interval than four days.

In case that no alleviation from symptoms occurs from subcutaneous vaccine therapy, intravenous injections of vaccine may be tried. When bacterial vaccines are being used and the patient is not sensitive to these organisms, an initial dose of not more than twenty million bacteria may be given intravenously. If, however, the patient is sensitive to the bacteria contained in the vaccine, the initial dose intravenously should not be more than one quarter of that amount. Intravenous vaccine therapy is usually followed by a chill and rise of temperature, which may come on at any time between three quarters of an hour and eight hours after the exhibition of the vaccine. Such treatment as this should not be repeated more often than once weekly, and should be preceded in each instance by a urine examination with the idea in mind of demonstrating the presence or absence of red blood cells and other evidence of kidney irritation. Should this be present, the treatment must be postponed until such time as the urine is found to be normal again. A subcutaneous treatment may be sandwiched in between two intravenous treatments. If the patient receives no relief from the vaccine treatment given, it may be that the proper organism is not incorporated in the vaccine, and in that instance it is necessary to take another culture of the patient's secretions and discharges. Some patients require more than one series of vaccine treatments, and they usually do much better with the second and third series than they did with the first.

A large percentage of patients suffering from hay-fever become asthmatic during the hay-fever season. As a rule, asthma occurs only during the latter part of the hay-fever season, the reason for this being that the nose is obstructed because of the hay-fever, and the patient is compelled to breathe with his mouth open. Under these circumstances, pollen-laden air is inspired directly into the bronchial tubes without having the protective action of first passing through the nose. As a result, the pollen causes the same swelling to occur in the bronchial tubes as is present in the nose, thus producing an attack of true bronchial asthma. Because of mechanical nasal obstruction or extreme sensitiveness of the bronchial mucous membrane, some patients become asthmatic at the outset of the hay-fever season, and their bronchial symptoms in this instance overshadow the nasal and eye symptoms with which hay-fever patients ordinarily suffer. Having seen a patient affected with asthma of the aforementioned type, one can readily appreciate the suffering which these patients undergo. The symptoms usually last six weeks or more, and the patient is constantly bedridden. Nothing in the way of relief can be expected from specific treatment under these conditions. It is without reason to add to the pabulum of pollen protein by injecting pollen extracts into a person who is saturated with these and constantly absorbing more through his respiratory mucous membranes. The only logical and reasonable thing to do under these circumstances is to make every effort to prevent the patient from further contact with pollen. This can be accomplished by screening the windows with wet cheesecloth and hanging a moistened sheet over the door. If possible, it is wise to remove the patient to a room on the top floor of some very high building, such as a hotel. The room should have an eastern exposure, and the windows and doors should be protected according to the foregoing suggestion.

In about 50 per cent. of the cases of hay-fever asthma, the attack may be prevented or made so mild that the patient will be comfortable throughout the hay-fever season by prophylactic specific treatment. In New York, most of the spring cases of hay-fever are due to sweet vernal grass, timothy, Kentucky June grass, redtop, and orchard grass. In the fall, as far as my experience has gone, the vast majority are due to ragweed. The other pollens, such as tag alder, sheep sorrel, daisy and goldenrod, play an unimportant rôle. It is absolutely essential that the amount of sensitive-

ness be established by skin tests before treatment is undertaken. This is accomplished by applying the various dilutions of the pollen or pollens to which the patient is sensitive to small scratch marks made on any of the flexor or internal surfaces of the extremities. The dilution next higher to the one that gives a reaction is the dilution with which treatment may be begun. For instance, the patient is tested with dilutions of ragweed extract of 1:100, 1:500, 1:1,000, 1:5,000, 1:10,000, 1:50,000 and 1:100,000. If the patient reacts to all the dilutions up to and including 1:10,000, the dilution of 1:50,000 is that which should be used with which to begin treatment. The initial injection should be 0.2 c.c. of this dilution, and the dosage should be increased by 0.2 c.c. each succeeding time until 1 c.c. of this dilution is given. Then 0.2 c.c. of the 1:10,000 dilution should be injected, and so on as before.

If redness, swelling and itching occur at the site of the injection, it is wise either to repeat that dose at the next treatment or even to diminish it if the action is very severe. When the treatment is begun, as is usually the case, about six weeks before the known onset of the attack, the interval of treatment should not be less than four days. When it is possible, we are now giving weekly injections throughout the year, and our results have been far better than when the prophylactic treatment has been of short duration, just preceding the hay-fever season. This plan is being carried out in the hay-fever and asthma clinic at New York University and Bellevue Medical College. When the stronger dilutions of pollen extract are used, such as 1:500 and 1:100, a great deal of caution must be exercised in increasing the dose, because even a slight increase may precipitate an attack of anaphylaxis; and I would warn those who arrive at these dilutions that the increase in dosage should not at any time be greater than 0.02 c.c.

Drug.—During an attack of bronchial asthma, certain drugs may be used to alleviate the patient's suffering. The solution of epinephrin (adrenalin) chlorid, 1:1,000, when given hypodermically, has the effect of overcoming the spasmodic constriction of the bronchial tubes, and thus stops the paroxysm or ameliorates the symptoms. The effects of this drug begin to make themselves manifest within fifteen minutes, and last anywhere from one half to two hours. For this reason it is necessary to administer repeated doses while the attack, which may last for weeks, is in progress. The patient gradually becomes accustomed to repeated doses of epinephrin, so that the amount given has to be increased from time to time, and finally, the patient develops a complete tolerance to the drug and no more relief is obtained from its administration. The constant exhibition of this drug is not unattended by baneful after-effects; its immediate action of precipitately raising the blood pressure must necessarily have a damaging influence on a heart even in the healthiest condition. Besides this, its constant use is known to produce a sclerosis of the larger arteries. Epinephrin should never be given intravenously, or while the patient is in the physician's office, as I have seen very harmful effects from such practice. Recently Dr. Hugo R. Miller has been using the active epinephrin extract in oil and, when given prepared in this way, he finds that the effect of the drug comes on more gradually and lasts much longer. The adrenalin inhalant, from our experience, is inactive and does not produce the results which Dr. Miller claims for his preparation.

Atropin given subcutaneously or intramuscularly in gradually increasing doses, up to the point of tolerance, and especially when combined with small doses of morphin, will give the patient a great deal of comfort. Potassium iodid, 1 gm. every four hours, helps to render the bronchial secretions less tenacious and more liquid, and thus makes the coughing milder and of shorter duration. Preparations containing the salts of ammonia, especially liquor ammoniae anisatis, disturb the stomach less than potassium iodid, and are just as efficacious. A mixture containing tincture of belladonna, chloral hydrate and syrup of hydriodic acid has been found to make the patient comfortable in the majority of instances. It is surprising how much relief is obtained by inhaling the fumes from a smouldering powder made from nine parts of stramonium leaves and one part of potassium nitrate. This is the basis of most asthma powders on the market. In very severe cases, nothing short of large doses of morphin hypodermically will give the patient the necessary respite and mental rest from the distressing paroxysms. When the bronchitis persists between attacks, nothing is more efficacious to alleviate the cough and sustain and soothe the patient than Thompson's mixture of linseed oil [1] with codein or compound tincture of opium. Applications of cocain and epinephrin directly to the mucous membrane of the bronchial tubes through a bronchoscope during an attack certainly give respite from symptoms; but the duration of the relief is too short to warrant this trying procedure.

NUTRITIONAL EDEMA AND "WAR DROPSY" *

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Before the recent war, medical literature contained frequent references to the type of edema now recognized as "war edema." With the clinical picture in mind presented by meager reports that have appeared in the American [1] and British scientific journals of recent publication, a somewhat extended study of wars, famines and epidemics of the past has proved fruitful in bringing to light evidence of the prevalence of edema of this type under varying conditions of insufficient and inadequate food. This edema resembles that of renal disease. In mild cases it may be confined to the lower limbs, but in the severe type the edema may extend to all parts of the body. There is no albuminuria. Accompanying this edema there are emaciation, muscular weakness, depression, anemia, and very frequently gastro-intestinal disturbances.

While the term war edema is not found in early medical literature, there is much evidence that the condition known by this term has been of frequent occurrence in the past. In giving a name to this disease, the authors usually express the chief etiologic factor with the most pronounced clinical symptom, so that war edema, prison dropsy, hunger swelling, epidemic dropsy, edema from inadequate food, deficiency edema, edema without albuminuria, and many similar

1. Mixture of linseed oil (Thompson) consists of: dilute hydrocyanic acid, 10 c.c.; oil of wintergreen and oil of cinnamon, of each, 8 c.c.; glycerin, 20 c.c.; simple syrup, 300 c.c.; Irish moss, 15 gm.; linseed oil, 450 c.c., and water, 780 c.c.

* From the Otho S. A. Sprague Memorial Institute.

1. War Edema, Current Comment, J. A. M. A. 70: 627 (March 2) 1918. Warthin, A. S.: War Edema, Int. A. M. Museums Bull. 7: 196 (May) 1918.

terms have been used. In civil practice previous to the war, essential idiopathic or primary edema, salt edema in children, alimentary dropsy, anemic dropsy and edema following gastro-enteritis were some of the more common terms employed.

Prinzing [2] makes no mention of war edema from the time of the Peloponnesian Wars, from 430 to 425 B.C., to the siege of Port Arthur in 1904. In a large number of these etiologically related conditions, edema appears as a symptom rather than as a specific disease. In the destruction of the French army before Naples in 1528,[3] "those soldiers who were not confined to bed in their tents were seen with pallid visages, swollen legs, and bloated bellies, scarcely able to crawl."

Vacher,[4] writing of the conditions of childhood during the siege of Paris in 1870-1871, finds that the effect of insufficient nourishment showed itself in progressive emaciation, edema of the integument, anemia, and uncontrolled diarrhea, which were characteristic symptoms of the hunger fever which decimated the infant population. Between 1877 and 1880, there broke out in Calcutta a peculiar disease to which the term "epidemic dropsy" was applied.[5] This disease followed an extensive famine in southern India.[6] It persisted in epidemic form until 1880. The number of cases increases in each cold season and falls off in each hot season. It has continued to appear in Calcutta sporadically. Neighborhood and family groups continued to be reported until 1915.

Edema of war occurred during the Napoleonic campaigns, the siege of Paris, and in the concentration camps during the Boer War, when it was known as epidemic edema.[7] Falta [8] of Vienna mentions that the disease was known in Russia during famines before the war, and that the expression "swollen from hunger" was current in the affected districts. Landa [9] related that in August, 1915, when the City of Mexico had been the seat of military operations for two or three months, the appearance of numerous cases of edema began to be noted. Starvation edema was reported by Dr. Patterson [10] in 1899 after a season of famine in China. Holst,[11] in connection with his researches in ship beriberi and scurvy, furnishes this interesting group of historical data:

> Many dropsical cases were observed during the Crimean War when scurvy was prevalent. Dropsy without sore gums occurs every year on board the French fishing vessels off the coast of Newfoundland. During the first part of the nineteenth century dropsy was common in European and American prisons. This prison dropsy is stated in 1847 to have been, besides typhoid fever and consumption, the most prevalent cause of death in forty-one prisons in England, France and North America. In 1857, it caused one-half the deaths in a prison in Breslau.

RECENT REPORTS OF EDEMA IN EUROPE

The first record of war edema in the recent war was made in 1915 by Strauss, who described the "hunger disease" in Russian Poland and Galicia, where the poor had an insufficient and monotonous dietary, and were exposed to war epidemics. About the same time, in July, 1915, Budzynski and Chelchowski [12] described a series of 110 cases of a peculiar affection occurring among the inhabitants of certain towns in Poland as a result of insufficient and inadequate food caused by the German occupation. The name "hunger swelling" was applied to this disease because its most characteristic feature was the presence of marked edema, recalling that encountered in dropsical beriberi. All the patients suffering from the disease were in a state of semistarvation.

In Germany, war edema first made its appearance in prison camps in July, 1915. Rumper at first considered relapsing fever responsible, but in 1916, when many cases with dysenteric symptoms occurred in prison camps free from relapsing fever Rumper and Knack [13] regarded dysentery as a predisposing cause. At this time, cases were reported among Russian soldiers at the front. Early in 1917, there were many cases in the civil population and labor battalions in Germany, and in the spring, cases appeared in Austria among civilians, especially workmen, but rarely among the troops. The disease appeared in Vienna with great suddenness. In 1917, marked attention was given in German medical journals to this peculiar disease, which seemed to have become widespread throughout Germany. The first cases noted in Berlin were in January, 1917.

Guillermin and Guyot [14] made personal observations and reported in March, 1919, that insufficient food in Russia, Germany and Austria had caused a specific disease of hunger which was known as hunger edema. These authors described the disease as it occurred among French prisoners of war.

In Poland, the patients were in a state of semistarvation, none having eaten meat for several months and some not since the beginning of the war. The cases occurred almost exclusively among the poorest of the people and the unemployed factory hands, who were without money to buy food at the famine prices. The staple diet of the people consisted of potatoes supplemented by small quantities of soup and bad bread on certain days. The amount of potatoes eaten averaged 5 pounds for each person daily, a dietary which caused diarrhea and eventually led to most of the food's being passed through the gastro-intestinal tract undigested. The causes of the disease, according to the Polish authors Budzynski and Chelchowski, were lack of proper food, especially the absence of fats, and the large amount of bad potatoes consumed. Maase and Zondek,[15] in agreement with other authors, consider the cause of the disease to be underfeeding, resulting especially from the diminished quantity of fats. Another factor suggested was the amount of fluid ingested. Owing to the changed conditions, most of the sufferers had been taking a more watery diet than normally, in the form of soups, turnips, etc., and the occurrence of diarrhea was fairly common. Schiff [16] suggests that this purely war disease has obvious similarities to beriberi and other diseases resulting from a lack of vitamins. Falta says that all of the patients

2. Prinzing, F.: Epidemics Resulting from Wars, New York, Oxford University Press, 1916.
3. Hecker, J. F. C.: Epidemics of the Middle Ages, London, 1846, p. 231.
4. Vacher: La mortalité à Paris en 1870, Gaz. méd. de Paris, 1871, p. 9, cited by Prinzing (Footnote 2).
5. Green: Epidemic Dropsy in Encyclopedia of Medicine and Surgery, Edinburgh and London **2**: 422.
6. Leys, J. F.: Epidemic Dropsy, Reference Handbook of Medical Sciences, Ed. 3, New York, William Wood & Co., **2**: 696, 1914.
7. Maliwa, E.: Wien. klin. Wchnschr. **30**: 1477, 1917.
8. Falta, W.: Wien. klin. Wchnschr. **30**: 1736, 1917.
9. Landa, E.: Deficiency Edema, Gaceta méd., Mexico **11**: 67 (Jan.-June) 1917; abstr. J. A. M. A. **78**: 424 (Feb. 9) 1918.
10. Patterson, A. H.: Starvation Edema, Med. Rec., November, 1899, p. 715.
11. Holst, A.: Experimental Studies Relating to Ship Beriberi and Scurvy, J. Hyg. **7**: 621, 1907. Holst, A., and Frölich, T.: J. Hyg. **7**: 670 1907.
12. Budzynski, B., and Chelchowski, J. M. H.: Hunger Swelling in Poland, J. Trop. M. **19**: 141 (June 15) 1916.
13. Rumper and Knack: Brit. M. J. **2**: 560 (Oct. 27) 1917.
14. Guillermin, R., and Guyot, F.: Undernourishment and Famine Edema, Rev. méd. de la Suisse Rom. **39**: 115 (March) 1919.
15. Maase, C., and Zondek, H.: Berl. klin. Wchnschr. No. 36, Sept. 3, 1917; abstr. Brit. M. J. **2**: 560 (Oct 27) 1917.
16. Schiff: München. med. Wchnschr. No. 22, 1917.

had been improperly fed for a long time, especially as regards proteins, and the liability to edema, always present in malnutrition, was aggravated by the large quantity of sodium chlorid in the food. He states that persons showing war dropsy had usually been getting from 1,200 to 1,400 calories a day, including only 30 to 50 gm. of protein. But as such degrees of edema do not ordinarily occur in simple starvation, he believes that another factor must be present in these cases, namely, the ingestion of large amounts of fluid and salt in the attempt to sustain life on the thin vegetable soups common in prison camps and in famine districts. Cold, hard work and infectious diseases increase the tendency to edema simply because they increase the deficiency in food calories.

The Swiss authors found that in some regions the conditions of underfeeding were extreme, resembling the great famines of history. The disease was also very frequently found in men who were subject to hard work on a diet of from 800 to 1,200 calories, consisting of 15 per cent. and more of indigestible cellulose, bread containing 97 per cent. potatoes, very little fat, and a ration of 50 gm. of albumin, daily, at the highest. Exposure to cold and hard physical labor were contributing factors in the development of this disease.

Maase and Zondek [15] suggest that the toxic products of protein metabolism may cause damage to the endothelial lining of the blood vessels and so lead to edema. The high residual nitrogen and ammonia values found by them in the urine, blood and edema fluids were considered to be evidence of this hypothesis. Franke and Gottesmann,[17] in their study of the functional efficiency of the kidney in seventeen cases of war edema, found delay in excretion of urea and sodium chlorid in ten patients, and of potassium iodid and lactose in seven. They therefore call war edema a nephritis without albuminuria.

Maliwa,[7] from investigations of four cases; correlates the stage of polyuria with an excess of sodium chlorid in the blood, and finds that after the polyuria has passed off the blood is deficient in the sodium chlorid content. The change in the osmotic relations of the tissue is the essential factor in the disease, the polyuria and edema, though prominent clinical features, being secondary in importance. To determine the cause of the edema, Knack and Neumann [18] sought to secure its return in convalescents by restricting the diet principally to turnips, and by giving large quantities of water internally. Neither measure separately ever produced the result, but with the restriction of the diet, plus water drinking, the edema rapidly returned in convalescent patients. Lange [19] discusses the causation of a group of cases observed by him in West Prussia, and concludes that an altered permeability of the blood vessels was present, owing to a qualitative alteration in the food, perhaps to the extreme deficiency of calcium. Hulse [20] reaches similar conclusions, except that the edema was more frequently found as a sequel to relapsing fever, and in men who had been previously exposed to extreme cold. Recent writers discuss the subject of vitamins and the rôle they play in deficiency diseases, especially those belonging to the beriberic type, but generally recognize that it is not a well-defined deficiency disease, and in the majority of cases is the result of an inadequacy of diet to supply the nutritional requirements of the body.

The characteristic symptoms found among the inhabitants of certain towns in Poland were edema, debility, muscular weakness, intestinal disorders, mental depression, dimness of vision, disappearance of sexual impulses, and alterations in the blood and urine. With the disappearance of the edema the wasting was evident, the patients sometimes being reduced to mere skin and bones. Maase and Zondek [15] state that there were no noteworthy premonitory symptoms, but suddenly marked edema developed, especially in the lower limbs, with anemia and frequent diarrhea. Among French prisoners, there was great emaciation, the loss of weight being frequently 40 per cent. of the initial weight, anemia, general edema, muscular weakness and nervous exhaustion: and apathy and depression were associated with a "facies pestica." Falta states that prostration, apathy and weakness were almost constant; a feeling of heaviness in the legs, and diminished reflexes were found, but no typical polyneuritic symptoms occurred. The nutritional value of the food was still further diminished by diarrhea and dysentery, which were frequently associated early in the development of the disease.

In cases among the civil population, the edema was generally located in the feet and legs, occasionally in the thighs and trunk. In more than one-half the cases there was some degree of facial swelling; in one-sixth, the hands were swollen, and in one-ninth ascites was present. The face and scrotum were often affected, and in a small number of cases, ascites and hydrothorax occurred. Its features were remarkably uniform: the edema resembled that of renal disease and in mild cases was confined to the lower limbs; but in severe cases it was universal and caused considerable limitation of movement, sometimes interfering with the opening of the eyes. The edematous tissue was soft and elastic; the skin and puncture fluids were pale. In some cases the edema came on gradually, but after severe physical exertion, more rapidly. Following the disappearance of the dropsy, relapses were prone to occur, especially if there was any return to hard work or unsuitable food. The edema sometimes led to bursting of the skin with serous exudation, or so stretched the skin that pink scars like striae gravidarum resulted from it. The swollen extremities felt cold, and were painful when touched. Beyermann [21] states that twelve cases among the insane suggested scurvy or purpura except for the remarkably slow pulse and the absence of changes in the gums. On the addition of fresh vegetables to the ordinary diet, conditions returned to normal.

The urine was usually pale like water, alkaline, and contained neither sugar nor albumin. The amount of urine passed varied greatly in different cases, but on the whole was increased, sometimes reaching 60 ounces and over when the swelling was disappearing. As soon as the patient was put to bed, a marked diuresis began, and during the stage of recovery the amount of urine passed daily was from 3 to 4 liters. High residual nitrogen and ammonium values were found in the urine, blood and body fluids. Falta found polyuria and frequency of micturition; the urine being clear, of low

17. Franke, M., and Gottesmann, A.: Wien. klin. Wchnschr. **30**: 1004, 1917.

18. Knack, A. V., and Neumann, J.: Outbreaks of Edema in Germany, Deutsch. med. Wchnschr., July 19, 1917, p. 901; abstr. Lancet **2**: 248 (Aug. 18) 1917.

19. Lange, F.: Deutsch. med. Wchnschr., July 12, 1917, p. 876; abstr. Lancet **2**: 248 (Aug. 18) 1917.

20. Hulse W.: München. med. Wchnschr., July 10, 1917, p. 921; abstr. Lancet **2**: 248 (Aug. 18) 1917.

21. Beyermann, W.: Edema Disease in the Netherlands, Nederlandsch Tijdschr. v. Geneesk. **1**: 2265 (June 28) 1919; abstr. J. A. M. A **73**: 1172 (Oct. 11) 1919.

specific gravity, and free from albumin and formed elements, except a few hyaline casts. Tonin [22] comments on the odd fact that polyuria constantly accompanied the hunger edema in ex-prisoners of war seen at the hospital. As noted by others, this polyuria usually began when the patients were at rest in bed.

Jensen's [23] study of the blood showed from 1.5 to 4 million red corpuscles with a color index greater than one, usually with a leukopenia, in 60 per cent. of the cases there being less than 5,000, with a relative lymphocytosis (from 30 to 55 per cent.). The coagulation time was usually shortened, and the blood proteins were nearly always decreased, generally being from 4 to 6.4 per cent. (normal is from 6.5 to 8.5 per cent.), that is, there was a hydremia with hypo-albuminosis. The freezing point was normal, the residual nitrogen normal or low, uric acid normal, and sugar and calcium usually low, chlorin usually approaching the upper normal figures, although it was occasionally low. Chemical examination of the blood and urine (Knack and Neumann) revealed a diminution in lipoids and in the organic phosphorus content of the blood. The depletion of the tissues in nutritive reserve in war dropsy is shown by Falta's statement that when absolute fasting is studied in these cases there are only from 2 to 3 gm. of nitrogen eliminated per day, as against 10 to 12 gm. of nitrogen excretion during the fasting of normal persons.

There were no cardiac symptoms reported by Maase and Zondek, but other observers found a condition suggestive of a cardiac lesion with failing compensation. Falta states that the slow pulse, from 35 to 40 a minute, characteristic of war edema, is best marked in males. Schiff reports a somewhat higher pulse rate of from 42 to 56. The edema was frequently observed with cardiac symptoms and infections in children, but in adults without these complications.

Hemeralopia frequently preceded the development of the edema. In severe cases, corneal ulcer and xerosis of the conjunctivae were troublesome. Ophthalmologists describe these eye changes as the result of debility and poor nourishment. Nyctalopia, or night blindness, is common in the spring and fall as a symptom of debility. Night blindness seldom occurs as a functional disorder except in cases of general debility, starvation or scurvy. The development of xerophthalmia is now recognized as due to a specific deficiency in fat-soluble vitamins. Maynard [24] discussed twenty cases of increased intra-ocular tension found in the course of epidemic dropsy. There was dimness of vision, the cornea was a little steamy, and the pupils were small or moderately dilated. The tension of the eyeball was distinctly increased. Halos, generally rainbow-like, were complained of at one time or another during the attack of dropsy.

Vandervelde and Cantineau [25] made observations on 200 patients treated by them in the St. Pierre Hospital at Brussels. Most of these cases were among deported Flemish civilians. There was marked edema of the lower limbs, frequently associated with "grave phlegmons." The general condition was brought about by lack of food and by deplorable hygiene. There were weakness and profound anemia; and dyspnea resulted from the slightest effort. Those deported were recruited without any medical examination and were forced to do hard physical work. Minor symptoms and complications were common. Among these were: ringing in the ears and dry, painful skin with frequent secondary pyogenic infections; and in one or two instances dark pigmented patches were observed on the face, similar to the pigmentation in Addison's disease. (Noted by the Polish authors.)

In mild cases under the influence of a more generous dietary, recovery took place. The regulation treatment for the condition consisted in a better diet as far as possible and rest in bed until all swelling had disappeared. Knack and Neumann found that recovery always followed rest in bed on ordinary hospital diet and that the restriction of fluids was rarely necessary. Maase and Zondek, by giving three patients 100 gm. of fat daily for a week, were able to cure the disease completely without rest in bed or other remedial measures. The diet should be ample, especially in regard to protein. The lack of resistance to cold is striking, death following relatively slight chilling, so that warmth is an important part of the treatment. The prognosis is good if the patients are kept in bed on a proper diet, but severe cases frequently prove fatal. Postmortem findings are seldom reported. Chronic marasmus with atrophy of the viscera, especially the heart and spleen, fatty degeneration of the liver and kidneys, and in some instances, dysenteric ulcers were found. In three cases Budzynski and Chelchowski found a diminution in the amount of blood, and a reduction in the size of the liver.

REPORTS FROM INDIA, CHINA AND MEXICO

Leaving the recent reports of edema in Europe and turning to the literature of other countries, we find that in many lands similar epidemics of dropsy have resulted from famine. Until the appearance of "epidemic dropsy" in India following the famine in 1876-1877, "swellings" were regarded as a minor symptom, when arising in the course of famine diseases. During this famine the mortality was high, and in eight famine districts nine tenths of the total recorded deaths were caused by famine diseases—dysentery, dropsy, diarrhea and debility.[26] Government works and a system of rationing were established for men, women and children unable to earn the daily ration. To test the value of this ration, a system of weighing the people was undertaken. In these tests great caution was found necessary for, it was reported, many of the people who came into the camps appeared to be filling out and fattening, when in reality they were getting dropsical and in a fair way to die. In the nursery of the famine relief camp near Madras, many children were found to be in a dropsical condition, and most of the old people were in the same state. Old men and old women were bloated with dropsy, and others again, many of them in the prime of life, were mere skeletons, the bodies of full grown men weighing only from 58 to 85 pounds at necropsy.

To supply the vast population of southern India with the necessary amount of food for health was the "Hoover problem" of the famine relief agencies. Practically all the grain had to be imported, and transportation facilities were inadequate. It seemed necessary to keep the grain ration, principally rice, as low as possible. Animal foods were scarce. Dr. Cornish, adviser of the government of India on public health

22. Tonin, R.: Gazz. d. osp. **40**: 636, 1919.
23. Jensen: München. med. Wchnschr. **65**: 925, 1918.
24. Maynard, F. P.: Preliminary Note on Increased Intra-Ocular Tension Met with in Cases of Epidemic Dropsy, Indian. M. Gaz. **44**: 373, 1909.
25. Vandervelde, M., and Cantineau, M.: Edema Among the Deported, abstr. J. A. M. A. **73**: 1229 (Oct. 18) 1919.

26. Digby, W.: The Famine Campaign in Southern India, 1876-1877.

questions, pointed out that effects of insufficient nourishment might not be immediately apparent, and throughout the famine constantly emphasized the importance of the nitrogenous value of the ration, and advocated a ration consistent with age and work, sufficient to replace tissue waste. After this famine, reports began to appear in the *Indian Medical Gazette* of acute dropsy and acute anemic dropsy. In 1881, McLeod [27] termed the disease "epidemic dropsy." The "new disease" continued to be the subject of many reports and extensive bacteriologic investigations until 1909-1910. According to bacteriologic phraseology, it appeared endemically and epidemically, and much study was given to a specific organism, with no constant results.

Dr. Greig,[28] in his report on epidemic dropsy, states that there is evidence to show that epidemic dropsy is a nutritional disease which is brought about by a one-sided dietary, and that the two severe outbreaks of epidemic dropsy in Calcutta and Bengal, namely, from 1877 to 1879, and from 1907 to 1909, have been correlated with a sustained high price of food grains during this period, and the cessation of these epidemics has synchronized with the fall in prices of food grains. The study of the parasitic origin of disease has somewhat overshadowed the question of the relation of defects of dietary to the causation of disease in the tropics. In one locality, Greig found in 321 houses, with 4,637 inhabitants, 1,581 persons who were dropsical. The persons attacked consumed polished rice, and this was their staple diet. The amount of rice consumed daily varied from 2 to 16 ounces (from 1 to 8 chittaks). When the price of grains rose, the capacity for purchasing additional suitable articles of diet diminished and the diet became dangerously onesided.

The peculiar qualities of rice as a diet were pointed out by McCay [29] in his investigations of jail dietaries. Rice is the poorest of all cereals in protein, and when cooked it swells up and absorbs three and one-half times its weight in water. The percentage of starch in rice is high—up to 80 per cent. Rice is deficient in fat. Rice is a bulky diet, 26 ounces of dry rice when cooked measuring about 2,800 c.c. A large carbohydrate diet, by its mere presence in the intestinal canal, hinders the absorption of protein. On account of the fermentation processes that are quickly set up, there is increased peristalsis, and the food is hurried through the small intestine past the area most favorable for absorption. The amount of rice present in the diet influenced in a marked degree the quantity of urine excreted. The rice may have a diuretic action on the kidneys, or water may be formed in the tissues from the constituents of the rice, in addition to the large water intake with the boiled rice itself.

Dr. Patterson [10] of Chinkiang, China, described a group of cases of dropsy occurring in dispensary patients after a famine season. The food of these people consisted largely of weeds and wild plant greens. As no literature could be found on the subject, the disease was called "greens dropsy." The only symptom complained of was the swelling. With some medical treatment and money to buy grain, the patients recovered rapidly.

When the City of Mexico had been the seat of military operations for two or three months, Landa [9] related that many cases of edema in men, women and children began to be noted. Hundreds of cases were found with no albuminuria. As in other famine epidemics, many persons died of actual starvation, while others developed edema cachexia from defective nourishment. The mortality was high, the patients dying in marasmus with heart failure. There was hydremic anemia, hypothermia, slow pulse, reduction of the reflexes, and pain in the muscles. The only food obtainable had been vegetables of the families Chenopodiaceae and Amaranthaceae, such as beets and spinach.

RELATION OF WAR EDEMA TO DEFICIENCY DISEASES

Frequent reference is made to the similarity between the clinical symptoms found in war edema and those associated with diseases of the beriberi type. Falta states that the wet form of beriberi is the only other deficiency disease in any way resembling war edema. In this group of edematous diseases, as discussed by various authors, are tropical beriberi, ship beriberi and epidemic edema. The polyneuritic symptoms in tropical beriberi have been so constantly emphasized that they have obscured the equally important edematous conditions which form the chief feature in the wet type of the disease. In epidemic edema and ship beriberi, nervous phenomena are rarely present, but edemas of various degrees constitute the major symptom. Infants nursed by beriberic mothers suffer from edema, dyspnea and cyanosis. Authorities agree that this is an infantile beriberi due to some deficiency in the mother's milk. Almost all cases of infantile beriberi are edematous. The pathologic findings observed at necropsy in 219 infants under 1 year of age showed a percentage of 56.6 of infantile beriberi. Vedder and Williams [30] regard this edema in infantile beriberi as due to a specific avitaminosis. Vedder [31] furnished a list of food deficiencies found by the various investigators in beriberi: (1) deficiency in fat (Bremaud and Laurent); (2) nitrogen starvation (Takaki); (3) deficient vegetables combined with an infection (Fales); (4) deficiency in organic phosphorus (Schauman) and (5) deficiency of some unknown substance, not phosphorus (Fraser and Stanton, Chamberlain and Vedder, Shiga and Funk).

It is interesting to contrast with this group the findings by the various authors in war edema. The lack of calcium, fat, phosphorus in the blood, fresh vegetables, proteins and vitamins have each been emphasized in war edema. In addition there was general underfeeding; the diet as a whole was low in caloric value. The food was quantitatively as well as qualitatively deficient. There was semistarvation.

Lind,[32] in his early account of scurvies, found dropsy a constantly recurring symptom. Scorbutic persons were found to have edematous swellings at first about the ankles, later extending to the legs and other parts. The face, especially, became pale, swelled and bloated. Long want, improper diet, melancholy and cold are given among the causes. Dr. Cook, in a letter to Lind at this time, finds the term "nervous disorders" universally applied to most chronic and cachetic ailments. The lower people "who live continually on

27. McLeod, K.: Epidemic Dropsy in Calcutta, Indian M. Gaz. 16:146, 1881.
28. Greig, E. D. W.: The Scientific Memoirs of the Government of India, No. 49, 1911-1912.
29. McCay, D.: The Scientific Memoirs of the Government of India, 1909-1911.
30. Vedder, E. B., and Williams, B.: Concerning the Beriberi-Preventing Substances or Vitamines Contained in Rice Polishings, Philippine J. Sc., Sec. B, 8:175, 1913.
31. Vedder, E. B.: Beriberi, New York, William Wood & Co., 1913.
32. Lind, J.: A Treatise of the Scurvy, Edinburgh, 1753, p. 319.

farines and a gross diet," and among whom these complaints are found, had a universal lassitude, pains which they termed rheumatic, and a breathlessness on exercise. The legs were sometimes swollen and the abdomen almost always tender and tumefied. Professor d'Espine observed these edemas during the siege of Paris as a first stage of scurvy; and Guillermin and Guyot, commenting on similar scorbutic complications, ask if scurvy may not be simply a state more advanced in the evolution of this disease, of which edema is an initial symptom. But the number of deaths occurring without scorbutic symptoms seems to plead for war edema as "une entité morbide." Dropsical patients without sore gums were frequently observed in epidemics of scurvy in Russia during the Crimean War when scurvy was very prevalent.

In pernicious anemia associated with pregnancy, Williams [33] finds anemia, weakness, shortness of breath, and edema of the extremities. A general puffiness affecting the hands and face as well as the legs, without urinary findings, is common in hydremic patients. More than half of all pregnant women, according to DeLee,[34] show some edema of the feet, the hands or the face. Often this is an elastic puffiness that does not pit. The cause of this is not known. In reproductive processes throughout nature, growth occurs at the expense of the maternal tissue. The protein materials are chiefly concerned in the growth of the new cells. Miescher [35] showed that salmon, after entering the Rhine from the sea, virtually starve. Yet the genital organs of both male and female develop greatly at the expense of the liquefying muscles, which may lose 55 per cent. of their weight (protein) without destruction of the muscle cell.

In war edema and in the etiologically related edemas in deficiency diseases, hydremic anemia is a somewhat frequent symptom. Osler and McCrae,[36] in their study of the circulatory disturbances in a group of cases of chlorosis, find dyspnea in 318, palpitation in 254, and edema in 231. "Doubtless it is the occurrence of slight degrees of edema which gives chlorotic patients so plump a look." All the symptoms come on in the course of from three to twelve months. The disease is most common in ill fed and overworked girls.[37] A long continued unbalanced diet may play a large part in the process.

Sir Joseph Fayrer [38] finds that pernicious anemia in Europe resembles beriberi in the Orient. Bramwell,[39] in a table showing the most important symptoms in forty-five cases of pernicious anemia, records twenty-three cases of dropsy, associated with great prostration, weakness and loss of weight. The urine was normal in the majority of cases. This edema was considered as partly due to the watery condition of the blood, and partly to the enfeebled state of the heart. Functional derangements of the stomach and intestine are almost invariably present. A symptom [40] which is practically never wanting is edema, especially of the legs and under eyelids, though it is also seen in other places on the body. The swelling is practically never marked, but is very persistent, and is noticeable as one of the earliest symptoms of the disease. Moreover, it readily recurs in patients who show a complete remission. As in other anemias, the edema is possibly due to alterations in the blood vessel walls. A gain in body weight in pernicious anemia when unattended with increase of hemoglobin indicates dilution of the blood and escape of serum into the tissues.

Edema occurring in the course of gastro-intestinal disorders and marasmic conditions in infancy is somewhat infrequent but well recognized by pediatricians. Chapin [41] reports twenty-one cases of general and local edema in which neither the condition of the blood nor that of the urine explains satisfactorily the development of the edema. The clinical conditions in which these edemas are most frequently found are: (1) difficult digestion and malassimilation with gastro-intestinal disturbances and diarrhea; (2) exhaustive conditions, such as prematurity, marasmus, extreme secondary anemias, edema neonatorum, and in long debilitating diseases; (3) occasionally in various constitutional diseases, such as syphilis, tuberculosis, erysipelas, and pertussis, and (4) in angioneurosis of vasomotor origin.

Under the term essential, primary or idiopathic edema, Wagner,[42] in 1887, records the earliest account of this disease. An epidemic of edema in which thirteen cases occurred in thirty-five babies in which gastro-enteritis was prevalent was thought by De Wolf,[43] to be of infectious origin. The cases all occurred within a short time in a children's hospital in which the food supply was modified milk alone, or modified milk with the addition of a cereal or a proprietary food.

Potter,[44] in a group of cases of diarrhea with edema following a diet of barley water with a low percentage of fat and protein, increased the fats and proteins with the disappearance of the edema in a short time. The same author later reports a large group of cases in which he considers the edema a symptom of malnutrition and marasmus. In typical cases these babies had been treated for some time with boiled water, barley water or whey. A slight gain in weight occurred as the edema developed. Potter says that it is not what the babies are being fed that causes the dropsy, but what they are not being fed; also that it is entirely owing to the fact that they are not getting enough proteins in the diet, and this notwithstanding the intestinal disturbances that practically always accompany or precede the edema. It may be that in many of the cases the continuance of the diarrhea itself is due to the deprivations of solids in the food.

Czerny and Keller [45] use the term "Mehlnährschäden" to describe a condition found in infants fed on a high carbohydrate diet, but lacking in other important foodstuffs. The tendency of the tissues to hold water is increased in carbohydrate feeding. Holt [46] finds general edema as a symptom in marasmic infants. There is often increase in weight, and the whole body may become waterlogged. The symptoms shown by some

33. Williams, J. W.: Obstetrics, New York, D. Appleton & Co., 1912, p. 509.
34. DeLee, J. B.: The Principles and Practice of Obstetrics, Ed. 2, Philadelphia, W. B Saunders Company, 1915, p. 386.
35. Miescher, quoted by Lusk, Graham: The Science of Nutrition, Ed. 2, Philadelphia, W. B. Saunders Company, 1909.
36. Osler, William, and McCrae, Thomas: Modern Medicine, Ed. 2, Philadelphia, Lea & Febiger, 1915.
37. Osler, William: Principles and Practice of Medicine, Ed. 8, New York, D. Appleton & Co., 1916, p. 730.
38. Fayrer, Joseph: Beriberi, in Quain's Dictionary of Medicine, London, 1888, p. 164.
39. Bramwell, Byron: Anaemia, Philadelphia, William Wood & Co., 1899.
40. Stengel, Alfred: Diseases of the Blood, Philadelphia, W. B. Saunders, 1905, p. 263.
41. Chapin, H. D.: Cases of Edema in Infants, Arch. Pediat. 31: 5, 1914.
42. Wagner, E.: Deutsch. Arch. f. klin. Med. 41: 509, 1887
43. DeWolf, H.: A Report of Thirteen Cases of Edema Apparently Epidemic in Character, Arch. Pediat. 19: 895, 1902.
44. Potter, P. A.: The Relation of Protein to Edema in Marantic Children, Med. News, New York, Jan. 9, 1904; Edema in Infants, Arch. Pediat. 29: 206, 1912.
45. Czerny and Keller: Des Kindes Ernährung, 1906.
46. Holt, L. E.: Diseases of Infancy and Childhood, New York, 1916.

infants that have been fed for a long time on an almost exclusive carbohydrate diet indicate that they suffer from "Mehlnährschäden." The carbohydrate diet is frequently given in the form of proprietary foods and cereal decoctions to overcome diarrhea. Bloch [47] applies the term carbohydrate dystrophy to a group of cases in which he found xerophthalmia associated with edema resulting from fat deficiency and a carbohydrate diet. Hume [48] observed thirteen cases in which edema appeared following gastro-enteritis and vomiting. There was no marked error in the diet to throw light on the etiology of the condition. His observations on salt retention in these infants failed to be conclusive, and as there was no evidence of kidney or heart disease, the pathologic condition was sought for in the tissues themselves. The action of toxins, developed in the gastro-intestinal tract, on the suprarenals or capillary cells is suggested as a possible cause of the condition.

Ashby [49] finds these edemas following gastro-intestinal catarrh which has persisted for weeks. The gastro-intestinal tract is so deranged that poisons absorbed from it reach the systemic circulation and in this way lower the vitality of the endothelium of the blood vessels, causing an increased permeability. Recurrences were common, and these children seemed to do better on food containing a high percentage of proteins with a low percentage of carbohydrates.

In a review of the literature on osmosis and edema in infancy and childhood, Waterman,[50] as late as 1914, finds uncertainty as to the methods of the production of this edema. In the light of present knowledge, the weight of evidence seems to be in favor of the chlorid retention theory of infantile or essential edema, although the vascular lesions theory has many points in its favor. The etiologic factors considered by this author are: (1) latent or hidden nephritis; (2) chlorid retention which leads to a hydremia and so to an edema, and (3) increased permeability of the capillary walls.

In reviewing these various etiologic factors, there is evidence that the same type of dietetic and pathologic conditions is found in these edemas in infants as those concerned with war edema and the edemas found in the deficiency diseases of the beriberi type.

A general dropsy is a common symptom in hydremic animals. Friedberger and Fröhner,[51] and Hutyra and Marek [52] describe this condition as it occurs in draft oxen and horses that work in sugar factories and in other cattle from exclusive feeding on distiller's wash. The disease is chiefly caused by feeding on beet root residue, which contains only about 5 per cent. of solid matter with 95 per cent. of water. As the proportion of proteins in the solid matter is only 1 to 10, the residue contains 0.5 per cent. proteins. Consumption of such food combined with hard work results in hydremia. All tissues are infiltrated and the body cavities filled with transudate.

A similar condition of dropsy or "cachexia aquosa" is found in sheep from insufficient pasturage and unfavorable climatic conditions, such as wet or cold weather, badly situated grazing lands, and penning the sheep on wet, cold soil.[53] Weakness, emaciation, anemia, depression and exhaustive diarrheas accompany this condition.

EXPERIMENTAL EDEMA

Denton and Kohman [54] find that dropsy occurs in a large percentage of rats fed on a carrot diet, when the proportion of nitrogen is reduced by the addition of some non-nitrogenous foodstuff, such as fat or starch. Kohman,[55] in further experimental work, produced edema in a large percentage of rats fed on a diet composed largely of carrots. The addition of fats or fat-soluble vitamin, or water-soluble vitamin, or increase in salt content of the diet had no noticeable effect on the occurrence of edemas, but there was much more marked edema when there was much water in the diet than when the animals were on a dry diet. On the addition of a sufficient amount of an adequate protein to the carrot diet without change in caloric value, no edemas occurred and the animals grew normally. Control experiments showed that the edema was not due to toxic products in the carrots, or to starvation from low caloric intake.

Harden and Zilva [56] observed edema in one of three monkeys fed on a diet complete in every respect, except that it lacked the fat-soluble "A" factor and was low in fat. Each of these animals received a daily diet of from 250 to 300 gm. of boiled, polished rice, marmite, 10 gm., and salt mixture, 2 gm. (The large amount of rice in this diet may have hindered the absorption of the protein.) [29]

Extensive experimental work was conducted by Holst and Frölich [11] in an endeavor to produce ship beriberi in animals. Abortive cases of scurvy resembling ship beriberi were repeatedly seen in guinea-pigs, but although these authors were unable to produce typical ship beriberi they frequently observed edema.

I have carried out a number of dietetic experiments with dogs, rats and guinea-pigs. These animals have been variously fed on specially prepared breads containing much cornstarch in order to reduce the protein content; also, in the case of the rats and guinea-pigs, diets of beets, turnips, cabbage and potatoes with or without the addition of starch bread or plain bread. It has not been possible to carry out this work to the extent desired to make a complete study of the subject; furthermore, the work of Miss Kohman seems to cover the ground sufficiently well. Therefore no details of this work will be published. To summarize the results it may be said that in a number of animals edema was obtained, and that these cases occurred under such conditions as to agree fully with Miss Kohman's conclusions. That is to say, edema was not observed in animals that received a dry diet even when they were allowed to take such water as wanted. Most of the instances of distinct edema were observed in animals that lived on a diet poor in protein and fats and containing much fluid. For example, no edema was observed in guinea-pigs living on potato and rye bread, or on meal bread or rye bread alone; whereas a few of the guinea-pigs living solely on beets or cabbage showed more or less edema. A few rats fed

47. Bloch, C. E.: Xerophthalmia and Dystrophy in Infants, Ugesk. f. Lager **80**: 815 (May 23) 1918; abstr. J. A. M. A. **71**: 322 (July 27) 1918.

48. Hume, W. E.: General Edema Following Gastro-Enteritis in Children, Brit. M. J. **2**: 478 (Sept. 2) 1911.

49. Ashby, H. T.: Practitioner, London, May, 1914, p. 686.

50. Waterman, L.: Arch. Pediat. **31**: 115, 1914.

51. Friedberger, Franz, and Fröhner, Eugen: Veterinary Pathology, Ed. 6, Chicago, W. T. Keener Company **2**, 1908.

52. Hutyra, Francis, and Marek, Josef: Pathology and Therapeutics of the Diseases of Domestic Animals, Chicago, Alex. Eger **2**, 1916.

53. Hoare, E. W.: A System of Veterinary Medicine, Chicago, Alex. Eger, **2**: 1290, 1915.

54. Denton, M. C., and Kohman, Emma: Feeding Experiments with Raw and Boiled Carrots, J Biol. Chem. **36**: 249 (Nov.) 1918.

55. Kohman, Emma: The Experimental Producton of Edema as Related to Protein Deficiency, Am. J. Physiol., to be published.

56. Harden, A., and Zilva, S. S.: Edema Observed in an Monkey Fed on a Diet Free from Fat-Soluble "A," Accessory Food Factor and Low in Fat, Lancet **2**: 780 (Nov. 1), 1919.

solely on a carrot diet also showed edema. In one of these the visible edema disappeared when casein was added to the diet and returned when the animal was again restricted to carrots. This work adds nothing to Miss Kohman's observations, but furnishes merely a certain amount of additional corroboration.

GENERAL CONCLUSIONS

It will be seen that the final conclusions reached by those who have studied war dropsy are in extremely close accord. This condition seems not to be a typical "deficiency disease" in the sense of being the result of a deficiency in one or more specific unknown constituents (vitamins) in the diet. In a broader sense it is, however, a deficiency disease, and is the result of a protracted existence on a diet deficient in total calories, especially in protein. Undoubtedly, a high fluid intake, and possibly a high salt intake, are important accessory features. Hard work and exposure to cold are factors simply in that they increase the caloric deficiency of the food supplied.

It is gratifying to find that the experimental work agrees perfectly with the clinical evidence in establishing that a combination of low calories, low protein and excessive fluid intake will lead to a marked dropsy corresponding to war dropsy in all respects. The importance of specific vitamins seems to be excluded by these experiments.

Undoubtedly, dropsy occurring in many conditions associated with either defective food supply or absorption (as in some types of infantile dropsy) or in conditions of protracted anemia or cachexia is essentially the same as war dropsy. Hence the general term "nutritional edema" is to be recommended for this class of cases.

THE CAUSE OF ABSCESS OF THE LUNG AFTER TONSILLECTOMY

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Reports of abscess of the lung following tonsillectomy have been appearing regularly in the literature during the last six years. Such cases are occurring fairly frequently in the practice of every man who pays any special attention to chest disease, and it is within the last few years that their presence has been so particularly noticeable.

What is the cause of this complication? Why has it made its appearance only lately with such frequency?

The first report of a case that I find is by Bassim.[1] I have not, however, been able to verify the reference. Shortly afterward Scudder [2] referred to it. The most comprehensive paper is that by Manges,[3] published in 1916. Manges reports nine cases, in one of which the patient died. He discusses causation under the heads of (1) anesthesia; (2) aspiration of infected blood or of pieces of tonsillar tissue; (3) embolism, or infarction of the lung; (4) some special infective agent, and (5) some antecedent cause.

Perhaps only the last two heads need any explanation. Under the subject of some special infective agent he refers to three of his patients who were operated on in the same hospital, not far apart, and he thought that possibly the fact that they acquired their disease at the same place and the same time bespoke the exposure to an infection with special pulmonary affinity.

For an antecedent cause he warns against operating when the patient has a cough, etc.

Manges made some statements in 1916, based on his own experience, which he probably would not repeat now. He states, for instance, that "abscess of the lung should never occur if the patient has been properly treated." He goes on to say that abscess of the lung never occurs after tonsillectomy in private practice. This is, of course, not true. Richardson,[4] who published an article shortly after Manges, says that tonsillectomy is never a minor operation in an adult. He thinks these patients need more after-treatment than they get, and that every patient who is to have a tonsillectomy should have a thorough physical examination.

Coakley [5] discussed the matter with particular reference to Manges' paper. His remarks are somewhat critical of Manges. He says that all his patients are carefully examined before a tonsil operation, and asks Dr. Manges to state just what he would consider a complete examination, and specifically just how it would prevent any lung abscesses.

Manges thinks, or thought in 1916, that all these cases were due to careless treatment on the part of the operating surgeon. He is, however, very hazy as to what was done that was careless. He thinks the head should be lowered during the stage of anesthesia and that the patient should be carefully examined before the operation to see that he has no pulmonary infection.

No idea of etiology has been advanced which bears the test of close scrutiny. It is admittedly true that poor physical risks, that patients with fresh tonsillar infection, and patients with acute respiratory disease are not good subjects for tonsillectomy. But carefully examined patients, persons of all ages in the best of health other than their tonsillar disease, patients with no respiratory infection, and patients surrounded with every care, attention and operative safeguard all get abscesses occasionally when their tonsils are removed by a skilled operator. The subjoined case is cited as an example of one occurring when every care was exercised:

An unmarried woman, aged 36, had her tonsils removed, July 1, 1918, on account of frequent attacks of tonsillitis. Her general nutrition was poor, and it was thought that the removal of the tonsils would improve that condition. The operation was performed in a hospital under general anesthesia. The anesthetic was administered by Dr. H. C. Anderson, who has devoted special attention to anesthetics for twenty years, and has had his widest experience perhaps in nose and throat operations. Furthermore, he took particular pains with this patient as she was a valued friend and co-worker. The operator was Dr. J. M. Patterson, a skilful and careful nose and throat surgeon. The anesthetic was gas-ether with a suction tube, and the flow of ether was maintained by a small pump engine. Every precaution was taken against aspiration of blood or infective material. The suction tube was never out of the patient's mouth. The operation was not troublesome and there was no excessive bleeding, either during the operation or later.

The after-course was instructive. The history of lung abscess began while the patient was on the table. She began to cough immediately after the operation was completed, and continued after she was put to bed. Only after the administration of one-half grain of morphin in divided doses was it

1. Bassim: Thèse de Paris, 1913, No. 181.
2. Scudder, C. L.: Boston M. & S. J. 171: 523 (Oct. 1) 1914.
3. Manges, M.: Am. J. Surg. 30: 78 (March) 1916.
4. Richardson, C. W.: Laryngoscope 26: 1001 (July) 1916.
5. Coakley: Laryngoscope 26: 1008 (July) 1916.

at all controlled. After the patient got up and around she continued to cough. In the course of a few weeks she lost several pounds, and with her coughing brought up a thick mucopurulent expectoration. The sputum was examined repeatedly for tubercle bacilli, always with negative results. A vaccine was prepared and administered without benefit. About two months after the operation she went to Colorado and stayed some time, but was not improved.

About eight months after the operation, examination of the chest revealed these physical signs:

Heart: No hypertrophy; sounds muffled but clear; pulse regular and strong, rate of 70 to 80.

Lungs: Percussion of right side in front, hyperresonant. Impaired percussion note in back at base. Whispered voice over this area heard faintly. Vocal resonance increased. On auscultation from angle of scapula down, fine crepitation on inspiration and beginning of expiration sometimes distinct, sometimes faint. Lungs otherwise unimportant. Apexes quite clear.

Roentgenoscopy revealed an indefinite shadow on the right side.

A puncture was made on the right side in March, 1919. The needle did not produce any pus for some time, and then at the third puncture entered apparently an air space, and a few flakes of pus and tissue were drawn up.

The patient refused thoracotomy.

In September, 1919, she submitted to a pneumothorax artificially produced on the right side, which has given some relief.

COMMENT

Here is a case carefully cared for by a careful man. The symptoms of lung abscess began immediately.

Motor driven anesthesia apparatus used in tonsil operations may be responsible for the inspiration of septic material and the resulting lung abscess.

I do not here refer to the suction feature of these machines, but to the motor which forces the ether vapor into the pharnyx. These ingenious little mechanisms force ether into the posterior pharnyx, under what is really a very high pressure. The pressure balloons out the posterior space, and is sufficient to create an air current that would force pus, infected blood clots, or infected pieces of tissue past the glottis into the lung. Its pressure is continuous. It impedes coughing. Even with the head in a low position the material accumulates there, and is forced downward.

These motors furnish a very good field for the operator. But most of our lung abscesses have resulted since their introduction. Neither Manges nor Richardson publishes facts which let us know whether motors were used in their cases. I have records of two other cases in which they were used. In both these cases a lung abscess developed after a tonsillectomy in which a motor-driven apparatus was used for anesthesia. In two other cases, bronchopneumonia developed under the same circumstances. Certainly the use of these motors should be discontinued until we are able to determine whether they operate as a cause of the distressing, crippling and hideous sequelae of tonsil removal.

In those cases in which no motor-driven apparatus was used I have turned as an explanation of the etiology to other facts.

There is a relation between the tonsil and the lung which has not sufficiently been dwelt on. I will cite briefly one case as an illustration:

A man, aged 44, complained of continued cough. It had followed an attack of influenza, and had continued several months. He had been told he had tuberculosis. Physical examination, sputum examination and roentgenograms all made this doubtful. The signs in the lungs were, in fact, completely negative. Yet he spit up about half a pint of material a day. The tonsils were found badly infected. After their removal, the cough and expectoration promptly cleared up.

In other words, I believe that there is a path of infection directly from the tonsil to the lung, probably through the lymph glands. Definite information on the subject, however, is curiously lacking. The description of the lymphatic drainage of the tonsils in the standard textbooks on anatomy are very vague on the lymphatic chain after it reaches the deep cervical. However, Grober's [6] experiments with India ink seem to indicate that there is a direct pathway between the tonsil and the apex of the lung. The tonsils have long been regarded as a possible primary focus of infection in pulmonary tuberculosis.

The relation of infection of the tonsils to the lungs is so close that operators should think seriously of it. When the tonsils are removed, there has been opened up a large area of raw surface, ready for any septic infection and possibly draining directly into the lungs.

Let that area alone. I do not know exactly how much dabbling around tonsil operators do on this surface, but it is my impression that they do a great deal. I see no good reason for trying to get out every particle of tonsillar tissue; it is nearly impossible anyway unless done at the first step of the operation. Stop swabbing it, fingering it, poking around in it. There is another aspect to the matter: Tonsil operators, to retain the confidence of the rest of the profession, must find some way to control hemorrhage, so that we do not have this dangerous packing and handling of a raw surface in the face of a septic cavity ten or twelve or twenty-four hours after it has been opened up. One of Richardson's cases of lung abscess occurred after a postoperative hemorrhage.

CONCLUSIONS

1. Lung abscess is at present a frequent sequel to tonsillectomy.
2. It occurs in all classes of cases—in private as well as in free services.
3. It is sometimes fatal, always serious and often very crippling.
4. It is due in some cases to inspiration of infected material.
5. Motor-driven anesthesia apparatus, by creating a positive pressure in the pharynx, may operate as a cause. At any rate, the danger is sufficiently great to justify the discontinuance of their employment until comparative data can be secured.
6. It is due in some instances to metastatic infection through the lymphatics.
7. Swabbing or tampering with the throat after enucleation has been accomplished is the cause of one group of cases.

6. Grober, quoted by Ballenger: Diseases of the Nose, Throat and Ear, Philadelphia, Lea & Febiger, 1911.

Insecticides.—Such substances as coal oil, gasoline, and benzine are very good insecticides for such more or less stationary parasites as the louse and the bedbug. They act by covering the breathing pores of these insects, and so smother them. These oily substances are also very useful in campaigns against mosquitoes in which they are used to form a coating over ponds and other bodies of water harboring mosquito larvae, thus smothering them with the film on the surface of the water which the larvae and pupae are unable to pierce with their breathing tubes.—*U. S. Nav. M. Bull.*, January, 1920.

HAND AND FOOT PRINTS AS RECORDS IN LESIONS OF THE PERIPHERAL NERVES

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Graphic methods of recording signs and symptoms in many instances have a greater value than descriptive methods. Frequently it is impossible to have photographic records of the hands and feet in cases of peripheral nerve lesions; under this condition I have found it serviceable to record the contour of the palm and sole, by making impressions of the hand and foot.

Fig. 1.—Imprints in a case of ulnar nerve lesions: *A*, affected; *B*, affected; *C*, affected; *D*, normal; *E*, affected; *F*, affected; *a*, notch indicating atrophy of hypothenar muscles; *b*, notch between mounts of ring and middle fingers indicating atrophy; *c*, break in line along the radial border of the base of the index finger, indicating atrophy of the abductor pollicis.

Attention has been called to some of the changes seen in the conformation of the whorls of the skin in the various peripheral nerve lesions.[1] Imprints of the hands and feet are of greater value, however, than to demonstrate such changes alone. Not only is the position of the hand determined, but the atrophy of muscles and contractures are shown as well. Only five of the peripheral nerves show distinctive changes in a sufficiently large percentage to make it profitable to study the lesions by this method. These nerves are the ulnar, median, radial, internal popliteal and sciatic. The picture produced by a combined lesion of the ulnar and median is likewise distinctive. When the external popliteal nerve lesions show a characteristic picture, it is the same as that produced by lesions of the internal popliteal nerve.

Imprints of the hand in a case of a lesion of the ulnar nerve show the following characteristics: The clawing of the inner two fingers is well demonstrated by the absence from the imprint of any part of these fingers except the tips. The hypothenar muscles are seen to be atrophied by the presence of a notch on what normally consists of a rounded contour made by these muscles (Fig. 1 *a*). Between the mounts of the ring and middle fingers is seen another notch, and when the atrophy is very severe a notch appears between the ring and little fingers as well (Fig. 1 *b*). The fingers cannot be spread apart, and the first phalanx of the thumb is in a position of extension. The atrophy of the adductor pollicis is seen by a break in the line along the radial border of the base of the index finger (Fig. 1 *c*).

Median nerve lesions show very clearly the disturbance of the whorl formation on the tips of the index and middle fingers (Fig. 2 *a*). When severe clawing is present in these two fingers it is marked by the imprint of the very tips, frequently including the nail. The atrophy of the thenar eminence is usually well marked, and is shown by the prominence of the base of the thumb and a considerable notch in the normally rounded contour of the radial border of the thenar eminence (Fig. 2 *b*). The distal phalanx of the thumb is in extension. When severe clawing is present it is made evident by the absence of any imprint of the central portion of the palm. Not only is the atrophy of the thenar eminence noted by the notching proximal to the base of the thumb, but in many instances the loss of tissue is demonstrated along the radial border of the first phalanx of the thumb (Fig. 2 *c*). The failure of desquamation and the presence of many new lines is demonstrated over the thenar eminence (Fig. 2 *d*).

Fig. 2.—Imprints in case of median nerve lesions: *A*, affected; *B*, affected; *C*, normal; *D*, affected; *E*, normal; *F*, affected; *G*, normal; *a*, disturbance of whorl formation at tips of index and middle fingers; *b*, prominence of base of thumb and notch in contour of radial border of thenar eminence indicating atrophy of thenar eminence; *c*, loss of tissue along radial border of first phalanx of thumb; *d*, failure of desquamation and presence of many new lines over thenar eminence.

Radial nerve lesions are characterized by the cramped appearance of the fingers which results from the inability to place the palm on the paper in a flattened

1. Cestan, R.; Descomps, P., and Euzière, J.: Bull. et mém. Soc. méd. d. hôp. de Paris 40: 652 (May 5) 1916.

position. The most characteristic feature of this imprint is the position of the thumb, which is adducted, the distal phalanx falling within or on the border of the outline of the index finger. The thumb is rotated about its own axis inwardly so that the imprint of the radial border of the distal phalanx is straight and not rounded, because of the thumb nail. The distal phalanx of the thumb is usually flexed. Absence of the

Fig. 3.—Imprints in case of radial nerve lesions: *A*, affected; *B*, affected, musculospiral, operated on, April 22, 1919; *C*, normal; *D*, normal; *E*, affected, paralyzed abductor pollicis; *F*, normal; *G*, affected, musculospiral, operated on, April 4, 1919.

signs of atrophy of the thenar and hypothenar eminences is an additional feature of this form of lesion.

In combined lesions of the ulnar and median nerves, signs of atrophy of both the thenar and the hypothenar eminences are demonstrable by means of the notches found along their borders (Fig. 4 *a*). Clawing is present in all four fingers. The mounts are often separated (Fig. 4 *b*). The center of the palm shows a larger area in which no imprint is seen. When, in addition to the ulnar and median, the radial nerve is involved, the thumb shows at times the same rotation as was observed in radial lesions.

In lesions of the external popliteal nerve there is frequently seen a flattening of the toes, so that the plantar surface of the entire length of a toe will produce an imprint.

Lesions of the sciatic nerve show in addition to a slight pes cavus in some cases, a clawing of the toes indicated by the absence of their imprint on the paper.

It may be stated that, although by no means diagnostic, such records are of considerable value in determining the progress of the condition of atrophy and deformity in peripheral nerve lesions.

The imprints are very easy to take, and require a minimum of time for the amount of record produced.

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Fig. 4.—Imprints in case of ulnar and median, and ulnar median and radial lesions: *A*, ulnar and median; *B*, normal; *C*, ulnar and median; *D*, ulnar and median; *E*, ulnar and median; *F*, ulnar median and radial; *G*, brachial plexus; *a*, notches indicating atrophy of thenar and hypothenar eminences; *b*, separated mounts.

THE THÉZAC-PORSMEUR METHOD OF SUN TREATMENT

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In the spring of 1919, a new method of applying heliotherapy by means of a lens was called to my attention by Mrs. Edward C. Post of Newport, in whose sanatorium at Porsmeur, Morlaix, Brittany, it had been used. The lens had been called to her attention by M. de Thézac, and was put into practical use at the sanatorium by Miss Helen Whidden, the trained nurse in charge of the day camps, who was familiar with the Rollier and Malgat methods of sun treatment. Another treatment by a lens has been described by Artault.

In this paper I shall describe a series of carefully observed cases of chronic suppuration in the orthopedic service at the Children's Hospital, in which the treatment was by the Thézac-Porsmeur method. Miss Helen Whidden, who had charge of the treatment in France, was so good as to devote three months to the demonstration of it at the Children's Hospital.

The essential of the treatment is the concentration of the sun's rays by means of a double convex lens with a diameter of 12 inches and a focal length of 72 inches. At the focal point, of course, the heat is very great, as it would be in any lens used as a burning glass, and in general the patient should be placed at a point where the sun's rays form a circle of from 3 to 5 inches in diameter.

As the patient is moved farther away from the lens, the heat increases, and as the patient is moved nearer

the lens, the heat diminishes. The degree of activity to which it is desirable to submit the wound can be regulated by carrying the lens nearer the patient or farther away.

The lens is mounted in a canvas cylinder, 1 foot in diameter and 3 feet in length, which is kept rigid by two circular wires with thin strips of wood running from one hoop to the other, over which the canvas is stretched. The lens is placed a few inches from one end of the cylinder. The advantage of this cylinder is that it enables the lens to be pointed directly at the patient and makes the application of the treatment more definite. The cylinder carrying the lens is mounted on a tripod and can be swung in any direction by means of a handle.

The duration of the sun treatment should lengthen progressively. The first treatment should last for five minutes and increase at the rate of about five minutes a day up to thirty minutes. In a certain case a longer period up to an hour and a half was used without apparent ill results. The skin around the wound was as a rule protected by towels, and the person giving the treatment wore colored glasses, as the light is extremely bright, and the eyes of the patient were protected if exposed to the glare of the circle of light. The patients were given one treatment a day.

The effect of the treatment on suppurating wounds was perfectly definite: (1) The discharge immediately increased and then diminished; (2) pale granulations took on a healthier color, and (3) sensitiveness diminished. In order to test the efficacy of this treatment, a series of suppurating wounds of the severest type was selected, and cases that were obviously difficult. In the wards in a hospital for acute cases it was necessary to select a more acute type than would have been the case in an institution for chronic diseases, as patients that were doing well were discharged to the convalescent home on account of the need of beds, and chiefly the chronic suppurations that were resistent remained long enough to be observed under this treatment.

The cases here reported were observed by members of the staff, and records were dictated by them as to the progress of the cases.

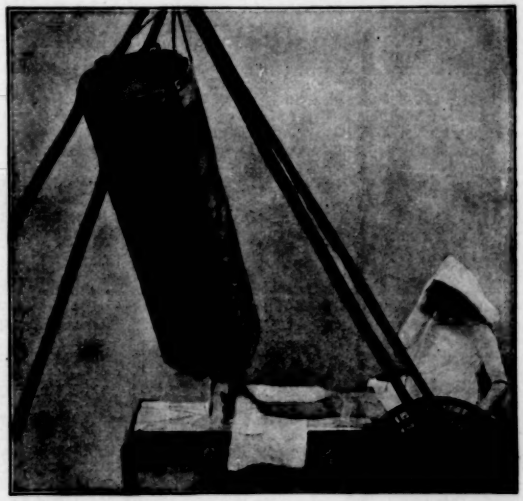

Fig. 1.—Method of applying lens treatment.

REPORT OF CASES

CASE 1.—*Tuberculosis of the Hip.*—M. M., a boy, aged 7 years, had had tuberculosis of the left hip of one year's duration, during which time in spite of treatment he had made bad progress and showed very little resistance. The von Pirquet reaction was positive, and he had had some abscesses. He seemed to have no power of repair, and had large areas of pale, flabby granulations which were melting down into larger ones, with much glandular involvement. Operation seemed out of the question on account of the extent of the infection, which extended half way to the knee. In April his parents were advised to take him home, as the case seemed hopeless. This they were unwilling to do. In May he was very much emaciated and septic. There were two sinuses around the hip, and a granulating area 4 inches long in his leg. He was extremely sensitive to motion and very lethargic. From May 1 to August 27 he received fifty-five sun treatments.

June 19, the wound was smaller and looked more healthy. Sensitiveness was much diminished, but the temperature remained high. Discharge had increased, the bacterial count had fallen from 25 to 4 streptococci, and from 15 to 2 staphylococci, and the pyocyaneus had disappeared after five days.

July 7, the wound on the leg had nearly healed, and the general condition had greatly improved.

July 31, the lymph nodes had diminished greatly in size.

August 6, the temperature became normal in the morning, but rose in the afternoon to 100 or 101.

August 27, when the treatment was discontinued, the large wound had nearly healed, the boy was well nourished and had a good color, and he was happy and full of interest.

Here was a serious tuberculosis of the hip regarded as hopeless, whose repair was definitely stimulated, and whose local and general condition was greatly improved after treatment was begun. As for months previous to this the patient had been going down hill, and as no other change in his treatment had been made, in the opinion of all who observed him the gain was to be attributed to the treatment by the lens. The bacterial count did not remain permanently low, but the streptococci rose slightly, August 20.

CASE 2.—*Congenital Syphilis.*—M. S., a girl, aged 12 years, had had congenital syphilis with destruction of bony tissue of the right ulna, and extensive skin ulcerations of three years' duration. There was an affection of the right wrist of one year's duration, the diagnosis apparently not having been made. Numerous small sequestrums were present in the wound, which were detached as they became loose. There was an ulcer at the elbow joint 3 inches in diameter with regular sharp edges and exuberant granulations which were greenish looking and soft; there was an ulcer at the lower third of the forearm, ulnar side, sloughing and discharging freely, and a roentgenogram revealed destruction of bone beneath both of the ulcers mentioned.

The patient was given thirty-three sun treatments aggregating twenty-one hours, covering a period from May 8 to August 5. The elbow was treated by heliotherapy. The patient had been receiving antisyphilitic treatment and the wound on the elbow had nearly healed, but the wound on

the wrist showed no disposition to heal and remained open. The Wassermann reaction was positive, and since April 3 the patient had been given 5 grains of potassium iodid three times a day with 2 grains of mercury with chalk. Later, no improvement occurring, the wound was dressed with mercury ointment and the patient was given arsphenamin intravenously, April 26, and three subsequent doses in the early part of May. The mother's Wassermann test was reported positive. In two months the elbow had entirely healed except for a small place where a bone spicule was protruding; and at discharge, both wounds were healed. The bacterial count fell from an average of 25 streptococci in the first four exposures to an average of 8 in the last four before the wound closed, and the staphylococci fell from 6 to 3.

This was a case of long-continued bone suppuration from syphilis which had been under antisyphilitic treatment without healing of the wound. The case was very extensive, and although the patient was having the antisyphilitic treatment, the improvement seemed to begin only when the sun treatment was started. The effect was most striking in the very rapid healing of the wound which began after the heliotherapy was commenced.

CASE 3.—*Acute osteomyelitis of left femur.*—A boy, aged 8 years, had acute osteomyelitis of the left femur. The involved area was incised, April 20, 1919. May 16, when the sun treatment was begun, there was profuse drainage and a temperature running at night often to 104. June 2 the sun treatment was discontinued. It was tried, June 27, but was again discontinued. July 3 it was begun again. August 27, when treatment was discontinued at the hospital, the wound was beginning to close and the discharge was small. The patient had to be operated on in October, 1919, and received Carrel - Dakin treatment, and on November 26 the wound was practically healed. The temperature was normal for two months, since September.

Fig. 2 (Case 2).—Appearance of arm in May, 1919.

Only twenty-six treatments, aggregating nine hours in all and covering 100 days, were given, the treatment having been interrupted by extensions of the process in the bone. The bacterial count did not fall, but the wound made good progress and grew smaller, the color of the granulations improved, and the sensitiveness diminished during the periods of insolation. The case showed that the treatment was not as well adapted to acute osteomyelitis as to the more chronic conditions, although it seemed to have a stimulating effect on the discharging wounds; but the process in the bone was still progressing, and nothing but operation could give final relief.

CASE 4.—*Cellulitis of right tibia.*—A girl, aged 8 years, had cellulitis of the right tibia. The involved area was incised, June 12. When sun treatment was begun there was a wound 3 inches in length, and at the back of the leg a wound 7 inches in length with considerable discharge. When the sun treatment was discontinued there remained only two small areas, one at each end of the anterior wound, which were quite dry, the posterior wound leaving a strip 3 inches long and one-fourth inch wide which persisted, which it was deemed more rapid to close by suture.

There were twelve sun treatments, covering a period of thirty-six days between June 24 and July 31. During the sun treatment the wounds became less sensitive and much healthier in character. The streptococci were reduced to about one third of what there were at the height of the infection, but the staphylococci, which were about 5 to a field at the beginning, remained about the same. The patient was discharged in good condition, August 20.

This was a case of suppuration of the soft parts, with no bone involvement, in which the sun treatment had a very stimulating effect on the closure of the wound.

CASE 5.—*Acute osteomyelitis.*—A girl, aged 11 years, with acute osteomyelitis, underwent operation, March 19, with incision and drainage. A second operation was necessary, July 1, and on July 12, when the sun treatment was begun, there was a very sensitive wound, draining profusely with a foul smelling greenish discharge. Twelve treatments in all were given, covering a period of forty-three days.

July 31, it was noticed that the wound was in decidedly better condition.

August 27, there remained only a small granulating surface about one-fourth inch in diameter, which was the opening of a small sinus. At the outside of the leg there was a small granulating surface communicating with the bone. The general condition was much improved and, August 28, the wounds were discharging very little, and the patient was sent to the convalescent home. The bacterial count of streptococci remained about the same. The case was regarded as having made better progress than it would have done without the sun treatment. This was an exceedingly deep-seated and resistant suppuration which immediately improved on the beginning of the sun treatment.

CASE 6.—*Osteomyelitis of right tibia and left foot.*—A boy, aged 9 years, who had osteomyelitis of the right tibia and left foot since April, 1919, was operated on for bone drainage, June 4. When the sun treatment was begun, the wound of the tibia was 17 inches long and 2 inches wide, discharging profusely. Twenty-two treatments were given between June 28 and August 27, a period of sixty-one days. July 24 a loose piece of bone found in the wound was removed. August 28, the wound was almost entirely closed, and the wound on the foot healed quickly, leaving three small sinuses. Later a small ulceration developed in the scar. The patient was discharged September 19. It was evident that from the beginning of the sun treatment the case healed with unusual rapidity.

CASE 7.—*Osteomyelitis.*—A boy, aged 10 years, having osteomyelitis, received twenty-six sun treatments covering a period of sixty-eight days between May 24 and July 21. He had been in the hospital eight times since 1916, and had had several operations. When the sun treatment was begun there was a wound at the right area above the elbow 3½ inches long, penetrating to the bone. July 15 the wound had healed except for a small area ⅝ inch long and ⅛ inch wide, at the center of which was a sinus communicating with bone. Streptococci fell from 25 to 4, and staphylococci from 10 to 2. This was a chronic low grade osteomyelitis apparently aided in the healing process by sun treatment.

CASE 8.—*Tuberculosis of the spine.*—A girl, aged 5 years, who had had very bad home surroundings, had a high dorsal tuberculous spine with pressure paralysis and involvement of sensation. A large ulceration developed on the back because of this lack of sensation, and wherever pressure was exerted a new ulceration developed. The sun treatment with the lens was inaugurated, May 8, and continued to May 31, to determine whether it would improve the sloughing on the back. The ulcerated area became smaller, but as the disturbance was evidently trophic in character the sun treatment was abandoned, as it was a case in which it was not likely to be of use.

CASE 9.—*Osteomyelitis.*—A girl, aged 10 years, with multiple osteomyelitis dating from October, 1916, had undergone several operations. Sun treatment was instituted in an abscess on the forearm 2 inches long and one-fourth inch wide. Eighteen treatments were given between May 8 and July 1, with the lens, and twelve sun baths. The wounds became cleaner and smaller, and on account of the child's having developed new foci, sun baths were instituted. At the end of the combined treatment with the lens and sun

baths, the wounds on the arm had nearly healed. The general condition was much improved. Pain had diminished.

The case was a very difficult one, under observation and treatment for many years, and very resistant to everything that had been attempted. The combination of lens treatment and sun baths seemed to have the effect of improving the healing process.

CASE 10.—*Nontuberculous arthritis.*—A girl, aged 7 years, who was poorly developed and nourished, had nontuberculous arthritis, which was most marked in the left knee, though there was some involvement of other joints. Blood culture was negative. The patient received six sun treatments between June 21 and July 3. No change in the condition of the joint was noted. Treatment was too short for any definite conclusion to be drawn, and the case was not suitable on account of its multiple character.

CASE 11.—*Cervical Pott's disease with abscess.*—A girl, aged 2 years, had a discharging tuberculous abscess. Sun treatment was started but abandoned because of the lighting up of the disease. Only seven treatments were given between June 21 and July 1, as the disease was increasing in the spine. The case was inconclusive.

CASE 12.—*Dactylitis of the left hand and ankle.*—A girl, aged 6½ years, had had dactylitis of the left hand and ankle of two months' duration. The case was clearly tuberculosis, and the bone was extensively involved. The von Pirquet reaction was positive. The pus from the finger was proved tuberculous by an inoculation in a guinea-pig. Eight sun treatments were given, and the parents took the patient home. No conclusion from the sun treatment can be drawn.

COMMENT

In my opinion and that of my associates, there was greater progress in the cases treated by the lens than there had been before, or than there had been in similar cases. Improvement in Case 1 was striking. The boy had been a long time under observation, he had made no headway whatever, and from the time the lens treatment was begun his improvement was rapid and steady. In two acute osteomyelitis cases in which the treatment was used within a week after operation, it seemed to be too stimulating, the temperature rose, and the sun treatment had to be deferred.

Fig. 3 (Case 2).—Appearance of arm in July, 1919.

For six years I have had experience in sun treatment in which the whole body has been exposed, and I am a strong advocate of its value. I am equally convinced that the treatment with the lens is a distinct addition to our therapeutic measures, as it possesses decided advantages. It can be delicately regulated and controlled; it is applicable when the sun is sufficiently clouded to be useless for general exposure; and it can be used in a sunny room by opening the window and pointing the cylinder at the sun. It seems free from risk when used according to directions, and it seems to embody real possibilities.

A bacterial count was made in all cases at short intervals, and a study of the cases shows that the effect of the sun treatment was to lower immediately the bacterial count in the discharge in the wound; but in several of these cases there was underlying suppuration, and the bacterial count was naturally not affected.

The value of the treatment would seem to have been demonstrated in cases of chronic suppuration from tuberculosis, syphilis and chronic osteomyelitis.

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THE TREATMENT OF INJURIES TO ATHLETES

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We are now seeing a greatly increased participation in the various forms of athletics, especially of those types which are classed as the "vigorous fighting games of youth"—football, basketball, soccer, boxing, etc. The war has had a marked effect in stimulating participation in these sports. By contrast, also, the injuries that so often accompany indulgence in them now seem so trivial that many restrictions, especially against football, have been removed. The physician may therefore expect to see a great deal more of the special types of injury that occur in athletics than he has heretofore been called on to treat.

There are many comparatively new forms of physical treatment being thoroughly tested out in the physiotherapy departments of our army and Public Health Service hospitals which are especially applicable to the treatment of athletic injuries. Much of the good accomplished has been the direct result of the skill and untiring effort of the reconstruction aides—young women well trained in the various branches, such as massage, electrotherapy, exercise and thermotherapy. They constitute a group having exceptional preliminary training and wide experience, and have not been deeply grounded in any one so-called "system" of treatment. These young women are becoming available in increasing numbers, and are capable of rendering the physician invaluable help in treating many types of cases.

That physician who will spend the brief time necessary for a person with his background to inform himself regarding the technic, indications and contraindications of the simpler forms of physiotherapy will be richly repaid for his labor. He is often too busy to give these treatments personally, but he needs rather detailed knowledge in order to prescribe them properly. For instance, to order "massage" in a given case without seeing to it that the type used, duration and method of application are correct is almost as vague as to order medicine without stating the kind or the dosage. For example, hacking or deep kneading might be absolutely contraindicated in a given case, when gentle and long continued stroking would be of great value.

The treatment of athletic injuries is often a complicated problem. The patients are usually young and in exceptionally good general health. Focal infections do not, as a rule, play a part in delaying recovery, but they must be kept in mind. On the other hand, we have two difficulties to contend with: the necessity of using the injured member slightly at the earliest possible moment, as would be necessary in signal practice, kicking or goal shooting, in order to keep in touch with the game. In addition, pressure on the part of the coach and their own eagerness to resume play sub-

jects these patients at the earliest possible moment to the very severe strain of the full contest. Time is always the most important factor.

The application of the various types of physiotherapeutic treatment to injured men of a university football team last fall brought very satisfactory results, and it is with the hope that interest will be stimulated in the conservative use of these treatments by the profession that this paper was written. The patients treated were referred through the courtesy of Drs. Townshend, Greenway and Cook.

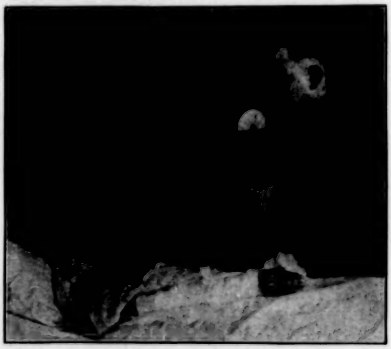
CLASSIFICATION OF INJURIES

Most of the injuries due to athletics fall into one of these classes: (1) muscle bruise; (2) torn ligaments; (3) torn muscle insertions; (4) subperiosteal hematoma, or (5) tenosynovitis.

Muscle Bruise.—This injury is perhaps the most common we meet in football players. It is usually caused by the shoulder of the tackler hitting the runner with great force on the front of the thigh. There follows at once pain, weakness, swelling and stiffness of the extensors of the leg.

The pathologic condition varies with the force of the blow and the hardness (condition) of the player. There may be only a slight bruising, which massage at once and continued light use will entirely eradicate. Generally, however, the muscle fibers will be found torn and matted together with considerable extravasation of blood and lymph.

The muscle should be relaxed, bandaged firmly, and rested twenty-four hours. After that period, treatment by the application of heat is begun. Baking is good, but does not penetrate deeply as the high frequency does. This current is usually given in the form of direct diathermy. A still more efficacious and better controlled method is by indirect diathermy. With the patient on the autocondensation pad or cushion attached to one pole of the d'Arsonval current, the other pole is applied directly over the injured muscle by the vacuum or, better still, a nonvacuum electrode. It is important to keep this electrode moving rapidly over the surface. A little powder applied to the skin will aid in the ease with which the electrode can be moved. Care must be taken that the cords are well insulated; a piece of rubber tubing will serve the purpose. If a steel table is used, one should avoid any possibility of the patient's touching the table during the treatment.



Direct diathermy in treatment of shoulder injury

Massage is begun the second or third day, very gently at first, only effleurage (stroking) and light pétrissage (kneading) being used. During succeeding days the massage should be given with greater vigor. Tapôtement (hacking) or even the high powered motor vibrator may be necessary to free the muscle fibers. These measures should be resorted to at once when the case is not seen until several days after the injury.

In a few of the cases the injury was at first deemed slight and received vigorous treatment at the hands of the team "rubber." Here capillary bleeding was again set up, with increased disability the following day. In very slight bruises this treatment would do no harm.

Torn Ligaments.—Sir Robert Jones has given us the key to the proper treatment of these injuries: relaxation, partial protection, and guarded but constant use. Let us take, for example, a tear of the external lateral ligament of the ankle. Raising the outer side of the heel and a reversed flat-foot strapping would secure the relaxation and protection necessary. Gradually increased walking on the level with a graded schedule of carefully applied passive, active and resistive movements will bring quicker results than complete immobility, which is often followed by a long period of distressing stiffness. In addition, the use of heat, diathermy, and massage will greatly hasten the repair process.

Torn Muscle Insertions.—These injuries are encountered in football and basketball, but are most common in track athletics, frequently following sprints and sprint starts before the runner has thoroughly warmed up. The general course of the treatment is the same as that already outlined, except that the relaxation must be complete, secured by splints or sand bag, if necessary, and held for at least two weeks before active treatment is instituted; and care must be taken not to tear the newly formed attachment.

Subperiosteal Hematoma.—This is the true "Charlie horse" for which the muscle bruise is so commonly mistaken. It should be treated by rest and firm bandaging until the hemorrhage has stopped, and then by heat and massage to promote absorption of the clot. The massage should be confined to frictions and deep stroking.

Tenosynovitis.—We find this condition early in the season in most sports, and generally confined to the Achilles tendon. It may follow the distance runner all through the track season. Acute conditions demand absolute rest, heat and gentle stroking. I have seen a number of chronic cases in college and preparatory school runners lately which cleared up with remarkable rapidity when treated with indirect diathermy and massage. In some of these cases the tendosynovial fluid will be found inspissated, and at times solidified and broken up. More prolonged and intense heat and massage with friction are indicated.

1173 Chapel Street.

Health and Education.—A very significant trend in education during the past few years is shown in the recognition that health is fundamental to sound intellectual development and that the rigid regulation of all things pertaining to the hygiene of students is indispensable. Generally speaking, there is serious economic and academic loss year after year in our schools, colleges, and universities, due to lassitude, indisposition, illness, and epidemics among students, all more or less preventable.—John Sundwall, *Pub. Health Rep.*, Nov. 7, 1919

Clinical Notes, Suggestions, and New Instruments

A NEW BRACE FOR TUBERCULOUS SPINES

GORDON N. MORRILL, M.D., CLEVELAND

In the treatment of ambulatory cases of Pott's disease, an adequate means of holding the spine in hyperextension is of vital importance. This is obviously more difficult of attainment than when the patient is recumbent on a frame, because of the strain put on the brace by the bending forward of that portion of the trunk which is above the deformity. A device which I have found satisfactory for this purpose is of the type illustrated here—one which I have used exclusively and with uniform success for the last eight years in all convalescent cases of middorsal and lumbar tuberculous spines. It owes its value as a curative element, not to rigidity or to a great amount of fixation, but to the three-point pressure secured with correct adjustment: first, pulling back on the shoulders; second, pressing forward on the kyphos, and third, pulling back on the pelvis.

Fig. 1.—The brace applied in a case of dorsal Pott's disease in which there is a large kyphos; extra padding at the seat of the disease.

From the accompanying illustrations, the appliance may be recognized as practically a reconstituted spring-back brace, differing in the main only in the greater rigidity of the material used, and in the diminished distance between the uprights. Its simplicity of construction and adjustment is apparent. Two upright pieces of steel, placed only a sufficient distance apart to prevent impinging on the spinous processes, are joined above by a steel cross-piece at a point slightly higher than the posterior level of the armpits when the arms are hanging, and below by a wider steel band attached to the uprights approximately at a level with the center of the sacro-iliac articulations, sloping slightly downward, and curved to fit the patient. As a rule, the brace is held in position by means of three strappings—those about the shoulders, the abdomen and the pelvis. The shoulder straps, attached as illustrated, pull the shoulders backward, forcing the forward-sagging portion of the trunk above the kyphos to straighten when, with the kyphos as the fulcrum and the brace as the lever, the device is forced into position and the pelvic band made secure. The angle at the top of each upright bar makes possible a very accurate adjustment of the shoulder straps—a factor of vital importance, since the shoulder weight alone is responsible for preventing the brace from sliding upward; but occasionally perineal straps must be resorted to when the brace will not maintain a correct position by the usual means. The abdominal band is specially constructed in accordance with the peculiarities of individual cases. For the patient seen in Figure 2, a lumber case, I have used a leather belt with side lacings and anterior straps of webbing to insure very accurate adjustment. When this seems unnecessary, the lighter weight webbing belt is sufficient if designed as in Figure 4, so that the double lateral strappings are merged into a single abdominal band reinforced by vertical stays, usually three in number and placed at intervals. The pelvic band is buckled to the ends of the lower cross-bar (Figs. 1 and 2), and from them it passes directly below the anterior superior spines.

All steel parts of the brace are well padded, particularly at the points of greatest pressure, with the exception of the upper cross-bar, which does not come in contact with the patient. In the case of the boy in Figure 1, in whom the kyphos was of considerable size, I used the customary padding of felt and leather, with additional thickness on each side of the kyphos, where, in order to secure the desired amount of correction, the pressure was extreme.

To any one familiar with the type of brace commonly used in these cases, the absence here of the customary canvas or leather apron for securing the proper degree of fixation will be noticeable. In my opinion, it is one of the most commendable features of the appliance. This apron, which extends from the clavicles nearly to the symphysis pubis, is fastened to the brace by several nonelastic straps on each side, and is supposed to be strapped as tightly as possible. The unavoidable result is a flattening and compression of chest and abdomen to such an extent that normal development is rendered improbable. My patients' chests are unconfined, their expansion is increased rather than diminished as is the case when the apron is used, and their normal development is therefore encouraged instead of retarded.

The value of the brace as a curative factor, however, depends, as I have previously stated, on its correct adjustment—a fundamental point, and one which cannot be overemphasized. It should be made to fit the individual patient, the curve of the uprights so arranged as to assure the requisite amount of spinal hyperextension. If there is a

Fig. 2.—Three views of the brace fitted in a case of lumbar tuberculosis; the freedom allowed the chest is a most commendable feature of the device.

Fig 3.—The patient seen in Figure 2, wearing clothing over the brace; the excellent posture may be noted.

slightly reddened area on each side of the kyphos when the brace is removed, the physician may be certain that the desired three-point pressure has been secured. Even so, unremitting watchfulness is necessary, making essential the procuring of monthly tracings, and, consequently, as frequent careful readjustment of the support to coordinate with any change of the kyphos, and to take advantage of a resulting possible improvement in posture. While the brace is being altered, and when it is removed daily for the alcohol rub and the powdering which the back must receive—as well as whenever it is applied—the patient should lie face downward with the spine as nearly immobile as he can hold it. He should in no contingency sit or stand erect when without the support; nor should he be permitted to bathe himself or be given baths in a tub by the attendant, until at least a periodic removal of the brace has been ordered by the physician.

Fig. 4. — Arrangement of pelvic and abdominal strapping frequently resorted to, especially with young children.

When the condition of the patient seems to justify removal of the brace, he should go without it for only short periods at first, increasing them gradually as the physician may direct. And these periods of freedom should always be during the waking hours until such time as an exacerbation of the disease seems very unlikely. The reasons for this should be obvious: When conscious, the patient will instinctively avoid motions and postures which would be painful and therefore irritating to the weakened area; but while sleeping, a sudden turn or twist might easily impair restoration which had been the result of years of patient endeavor.

The cases illustrated here will serve to make clear my points as to the construction and adjustment of this brace. But only experience and a fair trial can convey any adequate notion of its efficacy in cases affecting the dorsal and lumbar regions.

422 Osborn Building.

NEW FRACTURE BAND

ASA W. COLLINS, M.D., SAN FRANCISCO

Many years ago a case of comminuted fracture of the lower end of the femur, which seemed impossible of reduction, suggested to me the necessity of devising some method whereby the fragments could be accurately apposed and held in normal position. After considerable thought, together with a number of experiments, I devised the band with an instrument for its application, which, after many modifications, I am offering to the medical profession as one more addition to the many appliances used in operative work on fractures of the long bones.

Wire, when sufficiently tight to possess the proper tensile strength, breaks or loosens. Screws crack and destroy the bone, as well as loosen. Pegs are uncertain for the same reason. Plates are held by screws and are defective in some cases on account of the breaking or loosening of the screws. A single band around a bone does not possess a sufficient amount of strength to immobilize the fragments, and the slightest lateral motion is enough to cause an erosion and necrosis of bone beneath the band. Ligatures are difficult to apply, and often cut or break. Grafts are accompanied by great destruction of tissue and too often become sequestered, and so one is baffled many times in trying to decide on the use of any one or two methods which will meet every requirement. The prime factor in treatment of fractures of bones is a restoration of function, and this is dependent on securing proper apposition and maintaining it. Happily, the treatment is not often difficult, and the results are excellent in the great majority of uncomplicated fractures in the long bones; but it is in the consideration of the exceptional cases that we are now concerned, for it is here that the resources of the surgeon are not infrequently taxed to the uttermost.

In this band we have a method which does not necessitate further destruction of tissue,

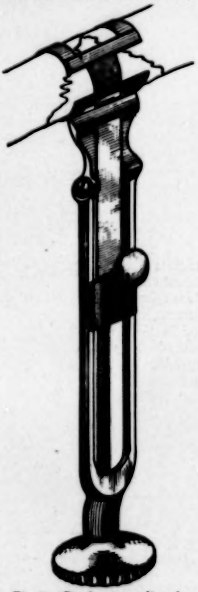


Fig. 1.—Band surrounding fractured bone, with instrument for tightening and locking the band. The width of the metal of the bands used at the present time is slightly narrower than those shown in the illustrations.

Fig. 2.—When the instrument draws the band sufficiently tight, the band is locked by being bent on itself. This is accomplished by pushing on the instrument, which causes it to bend, as shown.

Fig. 3.—Before and after applying a band in a typical case in which the band is best indicated. A large callus developed, and the patient has perfect functional result after a period of nearly two years.

such as screw holes, boring and sawing. The fragments are brought together by simple, even pressure, and are held until regeneration is complete.

In the thirty-four cases in which operation was performed, it was not found necessary to remove the band in a single instance, as all the operations were successful, the band becoming firmly embedded in the callus. The bands are made of an alloy of silver and nickel and heavily plated with pure silver, which gives them all the necessary requisites, namely, tensile strength, ductility, malleability and noncorrosibility. They are thin, and occupy very little space. The instrument for applying the band, as illustrated, will readily exemplify to the surgeon the simplicity with which it can be used. Up to the present time only two sizes of bands have been used, each with one window. The cases in which the use of the band is indicated are oblique and comminuted fractures of the femur and humerus. The band has also been applied on other long bones successfully.

To apply the band it is first bent so as to pass around the bone, and then into the instrument, where it is firmly held by a screw passing through a small hole in the band. It is well to remember to begin by passing the small end or tongue of the band around the bone first, beginning underneath the bone, and then passing it completely around the bone before pushing it through the window or loop. The band is tightened by turning the handle of the instrument until the proper tension is secured, when it is immediately locked by simply pushing on the instrument, which automatically locks the band by bending it on itself. The next step is to unscrew the instrument so as to cut off the end of the band with a pair of scissors about half an inch from the point at which the bending took place, and then bend over completely with almost any kind of a blunt instrument; a pair of heavy Mayo scissors will answer the purpose of cutting the band.

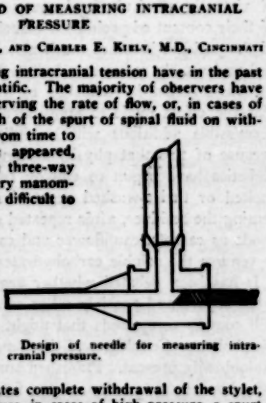
This device is not offered with any intention of supplanting any other operative method instituted in the past; but it is a valuable addition to the armamentarium used in operative fractures of long bones.

126 Post Street.

A SIMPLE METHOD OF MEASURING INTRACRANIAL PRESSURE

JOHN A. CALDWELL, M.D., AND CHARLES E. KIELY, M.D., CINCINNATI

Methods of measuring intracranial tension have in the past been extremely unscientific. The majority of observers have been content with observing the rate of flow, or, in cases of high tension, the length of the spurt of spinal fluid on withdrawing the stylet. From time to time, appliances have appeared, usually with elaborate three-way valves and with mercury manometers. The former are difficult to sterilize and the manometers are constantly aggravating because of the possibility of spilling the mercury. Further, the devices usually recommended are connected to the manometers by an adapter fitted into the butt of the spinal needle. This necessitates complete withdrawal of the stylet, and consequently involves, in cases of high pressure, a spurt of spinal fluid, which is lost entirely, before the adapter and needle are connected. This results in a lowered reading.



Design of needle for measuring intracranial pressure.

We have devised a needle in which a by-pass is added to the butt of a common puncture needle, with an adapter for a glass millimeter tube.

The needle free of the glass tubing is inserted in the usual way until the operator feels certain that he has entered the spinal canal. The measuring tube is then adapted, and the stylet of the needle withdrawn to the length of the attached chain. Unlike the standard needle, this one is of a constant bore through its entire length, so that when the stylet point has passed far enough out to permit egress of fluid into the perpendicular tube there is still no avenue of escape through the end of the needle, as shown in the accompanying illustration. The pressure will, of course, be read directly in millimeters of spinal fluid in the graduated glass tube. When the specimen of spinal fluid is to be withdrawn it will be necessary only to remove the stylet entirely. If serum is to be administered, an adapter can be fitted to the by-pass.

We feel that this device offers several advantages: simplicity with consequent sterilizability; freedom from the annoyance of spilling mercury; greater accuracy of reading, as the column of fluid will be thirteen and six tenths times as long as that of mercury. Finally, it is to be noted that even in the highest pressures that will be encountered, the amount of fluid set free in the device will not reach 2 c.c., which will never be a dangerous withdrawal even in tumor cases.

628 Elm Street.

New and Nonofficial Remedies

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION. W. A. PUCKNER, SECRETARY.

BARBITAL (See New and Nonofficial Remedies, 1920, p. 82).

Barbital-Chiris.—A brand of barbital complying with the N. N. R. standards.

Manufactured by the Antoine Chiris Company, New York City. U. S. patent No. 782,739 (Feb. 14, 1905; expires 1922) by license of the U. S. Federal Trade Commission.

BARBITAL SODIUM (See New and Nonofficial Remedies, 1920, p. 83).

Barbital Sodium-Chiris.—A brand of barbital sodium complying with the N. N. R. standards.

Manufactured by the Antoine Chiris Company, New York City, U. S. patent No. 782,739 (Feb. 14, 1905; expires 1922), by license of the U. S. Federal Trade Commission.

CONDENSED VITALAIT.—A pure culture in vials of *Bacillus bulgaricus.*

Actions and Uses.—Condensed Vitalait is designed for internal administration. See general article, Lactic Acid-Producing Organisms and Preparations, New and Nonofficial Remedies, 1920, p. 156.

Dosage.—The contents of one vial in water or milk, just before retiring, is the usual daily dose. The cultures are distributed by the manufacturer only and are sent by mail. Each vial bears an expiration date.

Manufactured by the Vitalait Laboratory of California, Pasadena, Calif. No U. S. patent or trademark.

The culture is grown in sterile skimmed milk, its incubation period being twenty-two hours. The average bacterial count of the finished culture is stated to be 200,000 per Cc.

Practical Obstetric Teaching.—The provision of large maternity centers in various parts of London, fully equipped for the reception of lying-in cases and perhaps also for gynecologic cases, and certainly associated with maternity and child welfare centers, must be a feature of hospital evolution in the near future. The need for such centers is pressing, and once the public learns that the present death rate and the present dangers of child bed are almost entirely preventable they will not be content with the existing inadequate provision for the hospital treatment of such cases, they will demand, and rightly demand, ampler and better provision. And the public authorities will have to yield to their cry. The maternity centers will furnish opportunities of teaching undergraduates, postgraduates and midwives on a larger and better scale than exists at the present time; and it is the business of the teachers of midwifery to take advantage of opportunities that may offer for the institution and management of the centers.—*Lancet*, Dec. 13, 1919.

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SATURDAY, APRIL 3, 1920

PROTECTION AGAINST POLIOMYELITIS

Whenever a disease breaks out in epidemic proportions nowadays, widespread advertising of protective measures is almost certain to follow. Owing to the known involvement of micro-organisms or similar infective agents in the genesis and spread of such diseases, the use of antiseptics is usually promptly lauded, particularly by those who are interested in the sale of alleged germ-destroying products. It is now generally believed that the inciting micro-organism or virus of poliomyelitis enters the nervous system by way of the nasal passages. This, therefore, has raised the question whether, during an epidemic of poliomyelitis, the application of antiseptics to the nasal mucosa is to be recommended.

The extent of present-day information regarding the fate of the virus in the human body is still too limited to make new possibilities of prophylaxis appear inconsequential. In considering the possibility of local antiseptic treatment, Flexner and Amoss [1] of the Rockefeller Institute for Medical Research have pointed out that in the case of chronic meningococcus carriers, the suppression of that micro-organism by the introduction of antiseptics directly into the nasopharynx has not been notably successful; and they state that the meningococcus is apparently a much more fragile organism than the microbe of poliomyelitis.

It has been demonstrated that certain chemical disinfectants are effective against the virus in vitro; but in an investigation of the possible prophylactic value of chloramin-T, and dichloramin-T dissolved in chlorcosane, after application of the virus into the nasal mucous membranes, Flexner and Amoss found that these chlorinated products exhibited no great protective action and are of doubtful value. In fact, the question has lately arisen as to whether antiseptic chemicals applied to the mucosa are not actually objectionable; for it appears that this membrane may sometimes function to prevent infection. According to the observations of Flexner and Amoss, certain animals are highly refractory to inoculation by way of the nares with the virus of poliomyelitis, apparently in virtue of a power possessed by the membrane to destroy or otherwise render ineffective the virus that reaches it. Thus the latter will survive for an undetermined period on an ineffective, but for a relatively brief period of time on an effective, membrane.

It should be borne in mind, however, that this occasional property of the nasal mucosa appears to be distinct from any specific protective virtues that may appear in the blood. The poliomyelitic immune serum injected into the circulation is thought by Flexner and Amoss to meet the virus in the subarachnoid space. The low morbidity of poliomyelitis even during severe epidemics makes it seem probable that the insusceptibility of many persons is attained by some peculiar protection. If the normal nasal mucosa is part of the defense against the infection and serves to keep down the number of healthy and chronic carriers of the virus, it should be conserved in a healthy state. Local antiseptics are all too frequently merely chemical irritants; hence they should never be used indiscriminately—and evidently not in connection with poliomyelitis under the conditions just described.

1. Flexner, Simon, and Amoss, H. L.: Experiments on the Nasal Route of Infection in Poliomyelitis, J. Exper. Med. 31: 123 (Feb.) 1920.

VEGETABLE CARBOHYDRATES IN THE DIABETIC DIETARY

It has been pointed out by a number of writers [1] on the diabetic dietary that with the necessary exclusion of virtually all fruits and many vegetables because of their content of prohibited carbohydrate, the ration of the patients becomes much restricted, monotonous, and undesirably reduced in bulk. The diabetic craves the variety that is furnished by vegetable foods, so that the effort made to supplement his dietary with permissible additions will be fully justified. It is because of this that physicians much concerned with diabetics have begun to employ the so-called thrice-cooked or thrice-washed vegetables—products representing the residues, after repeated extraction, of such foods as carrots, cauliflower and cabbage, with water to remove the soluble carbohydrates.[2]

It has been debated whether vegetables thus freed from sugars and possibly other soluble carbohydrates still contain compounds that might yield sugar in the metabolism. Cellulose and, in some cases, starch are undoubtedly present. Published analyses by no means afford an accurate index, as the figures are commonly obtained by "difference," that is, by calculation of the residue of constituents not otherwise accounted for. When compounds potentially sugar-forming in the organism are fed to dogs rendered severely diabetic with phlorizin—so-called "total phlorizin diabetes"—the study of the urine makes it possible to ascertain how much, if any, of the intake can be converted to

1. Wardall, Ruth A.: Vegetable Foods for the Diabetic, J. A. M. A. 69: 1859 (Dec. 1) 1917.
2. Cammidge, P. J.: Thrice-Boiled Vegetables for Diabetics, Lancet 2: 1192 (Dec. 27) 1919. Wardall (Footnote 1).

sugar in the organism. From experiments of this type conducted at the Washington University School of Medicine at St. Louis, Olmsted [3] has demonstrated that the usually employed green vegetables actually yield no more sugar in the body than the estimation of the starch and sugar preformed in them will account for. Thus, in the case of cabbage and cauliflower it does not exceed 5 and 3.4 per cent., respectively, while the same vegetables thrice cooked furnish no more than 0.5 and 0.8 per cent., respectively, of sugar. The dietitian may therefore continue the use and advocacy of this type of food when it is indicated, with the satisfaction of knowing that no unsuspected latent sources of sugar are being offered to the patient.

Only those who are obliged to deal practically with the needs of patients severely ill with diabetes can adequately appreciate the advantage of every innovation that may afford some culinary addition to their inevitably monotonous regimen. It is most unfortunate, therefore, that one should find a distinguished physiologist, in reviewing a study of thrice-cooked vegetables for diabetics, venturing to comment thus: "If all that is wanted is a pretense of food—a mere filling for the stomach—might one suggest some boiled filter-paper? This would mean a saving of the cook's time and of coals." [4] Such uncalled for gibes bear the stamp of inexperience in the domain of dietotherapy.

THE PRECISE LOCATION OF PERICARDIAL EFFUSIONS

Clinicians are well aware that, unfortunately, the existence of pericarditis is often overlooked. Even when it is accompanied by pericardial effusion, the diagnosis is by no means always easy to make. The differentiation of the latter condition from cardiac dilatation occasionally presents great difficulties and is sometimes actually impossible. Paracentesis may fail to determine the presence or absence of fluid in the pericardial cavity. The reason for these uncertainties and the explanation for the errors in diagnosis sometimes made by even the most expert observers are found in part in the character of the evidence on which the clinician is forced to depend for his judgments. Although almost a hundred years have elapsed since Collin, Laënnec's assistant, demonstrated in 1824 the pericardial friction sound and interpreted its significance, this physical sign is not yet always so well defined as to be decisive. The determinations of the boundaries of dulness indicative of effusion involve possibilities of error, partly because of the personal equation of the observer and in part because of the shifting character of some exudates.

Even more fundamental than the difficulties just enumerated has been the lack of dependable information regarding the anatomic relations of the heart to the pericardium when an effusion exists. Williamson,[1] who has lately called attention to these gaps in our knowledge, points out that some writers regard the heart as a heavy solid which sinks in an effusion to the lowest position in the pericardial sac. He correctly reminds us, however, that the fixation of the heart through its connections with the great vessels at its base and its attachment to the diaphragm by way of the inferior vena cava may prevent any "sinking" of the heart such as has been postulated. Nor is the heart to be regarded as capable of "floating" in an abundance of pericardial fluid. Where, then, does the latter distribute itself? Does it spread out laterally or vertically in its peculiarly limited confines? On the correct answer to such questions the interpretation of many physical signs elicited through the intact chest wall must depend. Furthermore, without accurate information of this sort, paracentesis of the pericardium may sometimes truly become, as Billroth characterized it in 1870, "a prostitution of surgical skill." [2]

Correspondingly welcome, therefore, are the elaborate investigations which Williamson [1] has conducted at the College of Medicine of the University of Illinois on the actual anatomic interrelations between the heart and pericardial effusions of varying magnitudes. He has arrived at the definite conclusion that the fluid accumulates first along the lower margin of the heart and about the apex, particularly on the diaphragmatic surface of the heart. With small effusions, this is the only place in which fluid accumulates with regularity. The result of the accumulation of the fluid in this position is to push down the left lobe of the liver. This feature is said to be sufficiently conspicuous to serve as an early diagnostic sign of effusion. The second place in which fluid accumulates, Williamson continues, is over the great vessels at the base. With small effusions it is occasionally present in sufficient amount to be detected by percussion. With medium sized effusions this layer is generally thick enough to be demonstrable by percussion, and this retrosternal dulness is an important diagnostic sign.

With respect to the debated anatomic relations, it is further of note that in a considerable number of Williamson's experiments on the cadaver the anterior surface of the heart, in spite of the exudate, remained in part uncovered by the fluid, so that a pericardial friction rub could readily exist. This persistence of the pericardial rub is to be anticipated in cases in which the heart is relatively large, so that it fills out the space between the vertebral column and the sternum.

When the volume of pericardial effusion is large, the chances of successful tapping are obviously good. Williamson introduced fluids in widely varying quan-

3. Olmsted, W. H.: Availability of Carbohydrate in Certain Vegetables, J. Biol. Chem. 43:45 (Jan.) 1920.
4. W. D. H. in Abstract 3019, Physiological Abstracts, 4:488 (Feb.) 1920.

1. Williamson, C. S.: Pericarditis with Effusion, an Experimental Study, Arch. Int. Med. 25:260 (Feb.) 1920.
2. McPhedran, Alexander: Diseases of the Pericardium, in Osler's Modern Medicine 4:64, 1908.

tities up to 655 c.c. From a survey of the observations made it appears that small amounts of fluid are most likely to be reached by puncture from a site either just outside the apex or in the chondroxyphoid angle. This study should be decidedly helpful in the future management of pericardial disease.

PROTECTION AGAINST CARBON MONOXID

It has become almost commonplace to observe that under the stress of war emergencies the scientific resources and investigative intelligence of our country were effectively requisitioned in many instances with a degree of success rarely approached under the less strenuous demands of peace time. Nowhere was this exemplified more strikingly than in the domain of chemistry. Chemical warfare assumed a new and unexpected significance from both the offensive and the defensive standpoint. The enormous development of American chemical industries incidentally created new possibilities in the production of medicinal chemicals as well as in the maintenance of such supplies, for which this country was formerly dependent on European continental sources. Furthermore, the menace of the poisonous war gases necessitated the discovery and invention of means of protection, some of which have found a valuable application in the dangers of every-day life.

Danger from various gases has long been recognized as a hygienic problem in several industries. This is true, for example, of carbon monoxid. Experts of the Chemical Warfare Service have asserted that the intentional use of this compound as a poisonous war gas is practically out of the question, primarily because of its relatively slight toxicity. They have pointed out that several minutes' inhalation of a mixture of one part in 100 parts of air is required to produce unconsciousness, while with a number of other toxic gases actually employed, such as phosgen, for instance, a similar length of exposure to one part in 100,000 parts of air, that is, to a mixture a thousand times more dilute, will prove fatal. Since it is difficult to set up the required concentrations of even the most toxic gases over significant areas in the open, it is evident that no possible degree of cheapness, accessibility, etc., could overcome so serious a handicap.[1]

Nevertheless, defense against the danger of poisoning from carbon monoxid has been found necessary in both marine and land warfare. Defective ventilation in boiler rooms where products of incomplete combustion may escape, and in the neighborhood of explosions evolving large quantities of carbon monoxid, as well as in the relatively confined spaces of mining and sapping operations, calls for protection from the gas. Carbon monoxid is so inert chemically under ordinary conditions that few substances react on it with the speed required in gas masks, through which human respiration must proceed rapidly. Most of the other poisonous gases encountered during the war were absorbed or neutralized by suitable compounds introduced into gas mask containers. In the case of carbon monoxid the problem proved to be singularly baffling until, thanks to the combined ingenuity of a number of American chemists, it was ascertained that in the presence of suitable catalysts carbon monoxid can be oxidized continuously by the oxygen of the air. The perfection of a suitable catalyst—"hopcalite," a mixture of oxids of manganese, copper, cobalt and silver—has lately been disclosed by permission of the Bureau of Mines and of the Chemical Warfare Service.

As a constituent of gas masks, this new product of the war-time chemistry promises to function effectively against any concentration of carbon monoxid. Its field of usefulness in peace time is likely to be found in plants for the manufacture of power and illuminating gas, and in the metallurgical industries, in which carbon monoxid is largely employed, with frequent casualties and even fatalities. The government experts indicate that in coal mining, in certain classes of copper mining, and wherever explosives are used in confined spaces, carbon monoxid is a serious menace responsible for the loss of many lives each year. Leaky flues, exhaust gases from explosion engines, improper ventilation where coal fires are employed, and the air to which firemen are exposed in burning buildings, all constantly take a not inconsiderable toll of lives. The therapeutics of poisoning from carbon monoxid has lately been put on a more rational basis, and now prophylactic hygiene has added further possibilities of averting danger from it.

1. Lamb, A. B.; Bray, W. C., and Frazer, J. C. W.: The Removal of Carbon Monoxide from Air, J. Indust. & Engin. Chem. 12: 213 (March) 1920.

Current Comment

THE MEDICAL AND SURGICAL HISTORY OF THE WAR

The Surgeon-General, with the approval of the Secretary of War, is asking for an appropriation, in the Sundry Civil Bill, for the publication of the medical and surgical history of the World War. In its projected form, this medical history will be more than an account of the rapid expansion and administrative achievements of the medical department; it will be a collective study of the many problems of hygiene, medicine and surgery which were involved in the efficient medical care of the nation's armies—in fact, a system of medicine and surgery based on the experience and observations of the physicians who guarded the health of our soldiers. The knowledge which was gained in hospitals and on the battlefield, and the vast amount of medical research carried on during the war, can be made of immediate value to the medical profession and the public only by prompt publication of the medical history. There can be no question of the

merit of such a work; as a scientific record alone, the data will be of permanent value, irrespective of considerations regarding their utility as a source of information in future emergencies. The first volume of an unofficial history of the Canadian army medical corps appeared last year, steady progress has been made on the official British medical history, and the history of German participation in the war will be issued in nine volumes late in 1920; much of the material for the American history is already collected, and publication waits on the action of Congress. Nothing can be gained from procrastination and delay —the appropriation requested by the Surgeon-General should be allowed promptly. The medical and surgical history of the War of the Rebellion was delayed through twenty years. It is to be hoped that a similar fate does not await the publication of the Medical History of the World War. If Congress does not, within a short time, make the appropriation necessary for the printing of this available material, the failure will be tantamount to an order for its destruction. In a few years this material would be of archaic, but not of scientific, interest.

DETERIORATION OF STROPHANTHIN EMPHASIZES THE IMPORTANCE OF DETAILS

Factors that appear insignificant or of minor importance to the layman may play a surprisingly conspicuous part in the workings of science. Seemingly slight variations from the normal or the expected often alter the course of a reaction; that which is an infinitesimal quantity to the eyes of the untutored may become a highly potent portion in the hands of a trained worker. The latter may alter the functions of the human body by the use of less than a milligram or a hundredth of a grain of an active drug. Bacteria may be readily affected in their growth by variations in reaction that require special indicators for their easy detection. Physicians have learned that even a product as "pure" as is distilled water may need redistillation under special precautions to render it fit for therapeutic use. The foregoing instances are cited to illustrate the respect and attention which details deserve in paving the way to success in practice as well as in scientific medicine. A significant added example has just been furnished by Levy and Cullen [1] of the Hospital of the Rockefeller Institute for Medical Research in New York. Having observed wide variations of potency in the biologic assays of several lots of a commercial preparation of ouabain (g-strophanthin) furnished in ampules, they found that the sterilized solutions were decidedly alkaline in reaction, whereas freshly prepared aqueous solutions of the drug were neutral or slightly acid. This drug is readily rendered biologically inert by heating with alkalis. It was discovered that ordinary soft glass commonly used in making ampules employed in marketing sterile solutions for hypodermic or intravenous medication yields sufficient alkali on heating to change the reaction of distilled water—hence it is liable to decompose susceptible chemical substances. Thus, some ampules may contain a drug in a concentration as low as 0.01 per cent., i. e., 0.5 mg. of drug in 5 c.c. The difficulty can readily be averted by the use of containers of hard glass. In the special case of crystalline strophanthin for clinical use, Levy and Cullen advise that it be dissolved in 0.02 molecular-gram of standard phosphate solution at p_H 7.0 and sterilized in hard glass ampules, under which conditions it has been kept undeteriorated for months. We reiterate the value of attention to details.

1. Levy, R. L., and Cullen, G. E.: Deterioration of Crystalline Strophanthin in Aqueous Solution, J. Exper. Med. 31:267 (March) 1920.

Association News

THE NEW ORLEANS SESSION

Special Party from St. Paul and Minneapolis

Dr. Harry F. Thompson, Forest City, Iowa, advises that he is organizing a party to go to New Orleans from St. Paul and Minneapolis, and will be pleased to correspond with any who desire to join the party.

Steamship Parties Called Off

Dr. Ira J. Haynes, Richmond, Va., writes that he has failed to secure a ship to carry a party from Baltimore to New Orleans to attend the annual session of the American Medical Association. Notwithstanding earnest efforts to charter such a boat, he was unable to obtain one. It has also been found impracticable to arrange for boats to carry parties to New Orleans down the Mississippi River.

Large Attendance Expected

Dr. A. E. Fossier, chairman of the Local Committee on Arrangements, reports that, judging from the large number of hotel reservations already made, the coming annual session of the Association is going to be a large one. Notwithstanding this, the Committee on Hotels is doing all in its power to avoid inconvenience or confusion for the Fellows who will be in New Orleans, and feels confident that comfortable accommodations will be available for all. It is urged, however, that hotel reservations be made promptly and in advance of going to New Orleans, by addressing the chairman of the Local Committee on Hotels, Dr. J. J. Wymer, 921 Canal Street.

Clinics Preceding and Following the Scientific Assembly of the American Medical Association

It is purposed to make available for these clinics all the hospitals affording sufficient facilities. The cooperation of the Charity Hospital of Louisiana, the Eye, Ear, Nose and Throat Hospital, Touro Infirmary, the Hotel Dieu, and the Presbyterian Hospital has been secured. These institutions are interested in placing their clinical material at the disposal of visiting physicians, and have entered into the spirit of the undertaking in the most cordial manner.

The clinics will be arranged for Thursday, Friday and Saturday of the week before the session, April 22, 23, 24; for Monday and Tuesday of the session week, April 26 and 27, and for the Saturday following, May 1.

In accordance with hospital customs in New Orleans, the operative clinics will be held in the forenoon, the nonoperative, in the afternoon. Daily a notice of the morrow's program will be multigraphed and posted in the registration booth, the hotels and the hospitals themselves. The program will give the number of visitors that can be accommodated in each clinic. All the institutions will offer instructive work each day, the programs running concurrently, so as to offer opportunities to as large a number of visitors as possible.

CHARITY HOSPITAL, Tulane Avenue between Howard and Magnolia, reached by Tulane Belt car on Canal Street, going from river. Operative clinics every forenoon, in Miles and Delgado buildings, accommo-

dating, respectively, 525 and seventy-five spectators. Dispensary clinics every forenoon. Nonoperative (medical, dermatologic, obstetric) clinics in the afternoon, chiefly in the Miles Amphitheater (capacity, 500). *Surgery:* Drs. J. M. Batchelor, J. A. Dana, H. B. Gessner, F. A. Larue, E. D. Martin, R. Matas, F. W. Parham, John Smyth, M. J. Gelpi, C. Grenes Cole, J. E. Landry, Henry Leidenheimer, C. W. Allen, U. Maes, W. M. Perkins, A. C. King, M. Bradburn, W. P. Bradburn, A. C. Duncan, J. F. Points, John Lindner, A. A. Keller and E. J. Richard. *Medicine:* Drs. John B. Elliott, Jr., J. A. Bel, Benjamin Ledbetter, J. T. Halsey, G. Farrar Patton, Edward Moss, J. B. Guthrie, I. I. Lemann, J. A. Storck, Otto Lerch, Hamilton P. Jones, L. L. Cazenavette, Wallace Durel, Harry Daspit, A. E. Fossier, O. W. Bethea, J. L. Lewis, R. Lyons, Chaille Jamison and J. C. Cole. *Gynecology and Obstetrics:* Drs. S. M. D. Clark, William Kohlmann, Paul Michinard, C. Jeff Miller, H. S. Cocram, W. W. Leake, H. W. Kostmayer, J. W. Newman, E. H. Walet, P. B. Salatich, C. P. Holderith, E. D. Friedrichs, J. F. Dicks E. L. King C. A. M. Dorrestein and C. P. Brown. *Orthopedics:* Drs. E. D. Fenner, John F. Oechsner, Paul A. McIlhenny, Solon Wilson, James T. Nix, Jr., and Joseph Levy. *Urology:* Drs. S. P. Delaup, Joseph Hume, A. Nelken, Paul Gelpi, Henry Walther, P. J. Kahle and H. Lindner. *Ophthalmology:* Drs. M. Feingold, T. J. Dimitry, A. L. Whitmire, V. Smith, Henry Blum and A. R. Crebbin. *Diseases of the Ear, Nose and Throat:* Drs. Homer Dupuy, S. M. Blackshear, W. T. Patton, J. A. Estopinol, L. de Poorter and William Scheppegrell (hay-fever clinic). *Pediatrics:* Drs. C. A. Borey, L. R. De Buys, C. J. Bloom, John Signorelli, R. A. Strong, R. Crawford and G. J. de Reyna. *Dermatology:* Drs. Isadore Dyer, H. E. Ménage and J. N. Roussel. *Radiology:* Dr. G. B. Harney. *Pathology:* Dr. C. W. Duval.

EYE, EAR, NOSE AND THROAT HOSPITAL, Tulane Avenue, corner of Elk Place, five squares from Charity Hospital, reached by Tulane Belt car, on Canal St., going from the river. Dispensary and operative clinics, each, nose and throat, in the morning; eye, in the afternoon. Amphitheater seats fifty. *Eye:* Drs. Henry Dickson Bruns, E. A. Robin, C. A. Bahn, W. R. Buffington and E. McCarthy. *Ear, Nose and Throat:* Drs. R. C. Lynch, John T. Crebbin, George Taquine and J. D. Martin.

TOURO INFIRMARY, Prytania, between Aline and Foucher, reached by Prytania car at Canal and Camp, or St. Charles Belt. Dispensary in the forenoon. Operative clinics every forenoon; six rooms accommodate sixty. Medical clinics in the afternoon; accommodations for 200. *Surgery:* Drs. R. Matas, E. W. Parham, E. D. Martin, C. Jeff Miller, S. M. D. Clark, C. W. Allen, A. Nelken, H. B. Gessner, U. Maes, L. H. Landry, R. E. Stone and Isidore Cohn. *Obstetrics and Gynecology:* Drs. William Kohlmann, J. W. Newman, J. Barnett, J. G. Hirsch, Joseph Conn and C. A. M. Dorrestein. *Orthopedics:* Drs. E. S. Hatch, J. T. O'Farrall and L. C. Spencer. *Eye:* Drs. M. Feingold, Henry Blum and A. R. Crebbin. *Ear, Nose and Throat:* Drs. C. J. Landfried, R. C. Lynch, J. P. Leake, A. L. Weil, S. M. Blackshear and H. L. Kearney. *Medicine:* Drs. I. I. Lemann, L. D. DeBuys, S. E. Simon, R. M. Van Wart, C. L. Eshleman, R. Lyons, J. M. Bamber, J. C. Cole, O. F. Ernst, A. L. Levine, C. J. Bloom, C. S. Holbrook and B. R. Heninger. *Radiology:* Drs. E. C. Samuel and E. B. Bowie. *Dermatology:* Drs. J. N. Roussel and R. A. Oriol. *Pathology:* Dr. J. A. Lanford.

HOTEL DIEU, Tulane Avenue, corner of Johnson, reached by Tulane Belt car on Canal Street, going from the river. Operative clinics every forenoon; five rooms accommodate a total of twenty-five. Drs. M. Souchon, J. A. Danna, J. T. Nix, Jr., Louis Levy, Homer Dupuy, J. J. Ryan, H. W. Kostmayer and Maurice Gelpi. *Radiology:* Dr. L. A. Fortier. *Pathology:* Dr. M. Couret.

PRESBYTERIAN HOSPITAL, Carondolet Street, between Julia and Girod, reached by Peters Avenue and Laurel Street cars at Carondolet and Canal. Operative clinics in the forenoon; four rooms accommodate a total of forty. Demonstration of pathologic specimens and roentgenograms in the forenoon. *Surgery, including Special Senses:* Drs. J. P. O'Kelley, W. D. Phillips, C. Grenes Cole, Roy Harrison, A. O. Hatfeld, Joseph Hume, J. R. Hume, John Smyth, D. L. Watson, M. P. Boebinger, F. A. Overbay and H. S. Cocram. *Internal Medicine:* Drs. J. L. Lewis, Chaille Jamison and F. Lamothe. *Pathology:* Dr. William H. Harris. *Radiology:* Dr. Adolph Henriques.

Welfare of the Blind.—The British Department Committee on the Welfare of the Blind, which reported in July, 1917, recommended the establishment in the Local Government Board of a special department whose functions should be the general care and supervision of the blind and the appointment of an advisory committee of persons associated with the care of the blind. Its first report (for the period ended March 31, 1919) has been published by the ministry of health. A register formed on the replies thereto shows a total of 25,840 blind persons in England and Wales. Inquiry was made into the work of the blind, and it was found that the employable group (11,895) is the largest, being 46 per cent. of the total unenumerated. Of blind persons in occupations most are engaged in basket and cane work; there are relatively few in outdoor occupations. A large number of blind children are not attending school, and of these 40.6 per cent. were returned as mentally defective. A table of the age of onset of blindness shows that 21.4 per cent. were blinded within the first year of life, the majority of them within the first month. After the first year the incidence is, roughly, 10 per cent. for each decade up to 70 years.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

ALABAMA

Personal.—Dr. Charles A. Mohr, Mobile, health officer of Mobile County, has resigned on account of his duties as health officer of Mobile.——Dr. Paul P. Salter, Montgomery, director of the state laboratories for several years, has resigned and will practice in Eufaula.——Dr. Frederick K. Reynolds, Montgomery, assistant state health officer, has resigned and will practice in Montgomery.

ILLINOIS

Smallpox in Evanston.—Two cases of smallpox, the first to be reported in Evanston for five years, were discovered March 23. Both patients were taken to the Chicago Isolation Hospital.

Asks New Trial.—Motion for a new trial in the case of Dr. George W. Alverson, Sciota, convicted of the murder of Lawrence Clugston, were filed with the circuit court of McDonough County, February 28.

Branch Association Organized.—The Belleville Branch of the St. Clair County Medical Association was organized at Belleville, March 2. The membership in the branch will include not only physicians of Belleville but also those from the central and eastern parts of St. Clair County. Dr. Buenaventura H. Portuondo was elected president; Dr. William L. Hanson, secretary, and Dr. Delmar R. Duey, treasurer, all of Belleville.

The Venereal Disease Plague.—Certain communities in Illinois and on the Indiana border, notorious as breeding places of venereal diseases, will be cleaned out by the attorney general, county commissioners and municipal health departments. This decision was arrived at, March 25, after a lengthy conference called by Pres. Peter Reinberg of the Cook County board, and suggested by Dr. George G. Taylor, Springfield, chief of the division of social hygiene of the Illinois department of public health. Every person known to be infected will be taken to a clinic or hospital and treated until cured or safe.

State Dentists Meet.—The fifty-sixth annual meeting of the Illinois State Dental Society was held in Chicago, March 22 to 25, with about 4,000 in attendance. The chief topics of discussion were the importance of dental work in public schools, the antisugar campaign, the gospel of the clean mouth and the relation of systemic diseases to infected teeth. March 23 was devoted to a clinic by the Chicago Dental Society, and in the evening a testimonial banquet was given to Dr. Thomas Lewis Gilmer, dean of the profession in Chicago. Dr. J. T. Luthringer, Peoria, was elected president; Dr. Frederick B. Noyes, Chicago, president elect, and Dr. C. W. Coltran, Chicago, vice president.

Chicago

Research Club Meeting.—At a meeting of the Medical Research Club of the University of Illinois, held Thursday, March 25, in the college of medicine, Prof. A. H. Clarke, school of pharmacy, discussed "The Work of the Council of Pharmacy and Chemistry of the American Medical Association," and Paul N. Leech of the Laboratory of the American Medical Association, spoke on "Some of the Council's Problems with Therapeutic Agents." The faculty of the college of medicine passed a resolution commending the aims and work of the Council.

Public School Athletic League Formed.—To make Chicago's 400,000 schoolchildren the healthiest schoolchildren in America is the purpose of the Chicago Public School Athletic League, an organization recently authorized at the instigation of the mayor and approved and supported by city and park officials, the board of education, members of civic organizations and principals of the high and elementary schools of Chicago. It is proposed to initiate efficient coaching and training, together with expert direction along the special lines of activity for which the individual boy is best fitted. This cannot fail to raise the standard of health, character and physical fitness.

Honored for War Service.—Dr. Gustavus M. Blech, who as lieutenant-colonel, M. C., U. S Army, commanded Base Hospital No. 208, near Bordeaux, the largest base hospital in France, having a capacity of more than 7,000 patients, has received through the Adjutant-General of the Army, a citation certificate of the Order of University Palms with the grade of Officier de l'Instruction Publique—gold palms, awarded to him by the French government for services rendered to French officers and the government at the University of Bordeaux.——Dr. Maurice L. Goodkind has received, through the Adjutant-General of the army, a citation certificate of the Order of the University Palms of the grade officer of the Academy—silver palm, awarded by the French government Nov. 18, 1919, for services as chief of the medical service of Base Hospital No. 53, Langres sur Marne, France.

Society Meetings.—At the meeting of the Chicago Medical Society, March 31, Dr. Edward A. Foley, assistant superintendent of the Chicago State Hospital, discussed the "Difficulties Encountered in Dealing with Mental and Delinquent Cases," with special reference to interference by newspapers, lawyers, physicians and the general public in endeavoring to secure releases from institutions of such cases; Dr. William O. Krohn, spoke on "The Malingerer as a Medical and Medicolegal Problem," and Dr. Daniel N. Eisendrath gave a report on "Recent Progress in Kidney and Ureteral Surgery."——At the meeting of the Society of Medical History of Chicago, held at the City Club, March 30, Dr. Morris Fishbein presented a paper on "Physicians' Fees;" Dr. Clarence A. Earle, Desplaines, one on "Pioneer Physicians of the Desplaines Valley," and Dr. Benjamin F. Uran, Kankakee, one on "The Names and Early History of Physicians of Kankakee County."

KANSAS

Personal.—Dr. Alva E. Billings, Topeka, has been appointed medical director of the Security Benefit Association, succeeding Dr. Oscar L. Peak, deceased.——Dr. A. L. Shelton, Hutchinson, the first American medical missionary to enter Thibet, who was captured by Chinese bandits, January 4, near Laoyakwan, has been released.

School for Health Officers.—Dr. Eugene R. Kelley, Boston, health commissioner of Boston, and Mazyck P. Ravenel, Columbia, professor of preventive medicine in the University of Missouri, have been secured as instructors for the school for public health officers which is to be held in Rosedale, May 10 to 15, inclusive. An officer of the U. S. Public Health Service will also be detailed for this work. The mornings will be devoted to clinics at the Bell Memorial Hospital, Rosedale, and the afternoons will be taken up in general public health work.

KENTUCKY

Personal.—Dr. L. A. Megler, Louisville, has been appointed school medical inspector, succeeding Dr. Lester A. Crutcher, resigned to become registrar of vital statistics for Jefferson County in place of Dr. William E. Grant, deceased.——Dr. John Hamilton, Owensboro, has been selected health officer of Daviess County.

Recent Legislation.—The legislature of Kentucky has enacted the following bills affecting the medical profession and public health: senate bill No. 220 provides for the establishment of a state board of health of nine members all legally qualified practitioners, except one, a registered pharmacist, eight of whom shall be appointed by the governor and the ninth who shall be secretary and state health officer, elected By the board: one member a homeopath, one eclectic and one osteopath, one a registered pharmacist, and all the other members physicians, all to be appointed by the governor from a list of three names for each vacancy furnished respectively by the state society or association of such physicians, or cities and boards as are entitled to a member, and the pharmacist from a similar list of three names submitted by the Kentucky Pharmaceutical Association. The president, secretary and members of the board and other officers and employees are to receive annual salaries to be fixed by the state board of health, to be paid as salaries and expenses as now paid. The other members of the board shall receive no per diem compensation for their services, except when sent by the board on special duties and when preparing and conducting examinations. A fund is created for the purpose of extending state aid to counties or districts establishing and maintaining county or district departments of health and authorizing the auditor to draw his warrant in favor of the state board of health, for the use of each county which has established such a county or district health department for the sum of $2,500 annually. Senate bill No. 408 gives immediate possession of Hazelwood Sanatorium for a state tuberculosis sanatorium. Senate bill No. 29 is an advanced housing bill. The budget commission has increased the appropriation of the state board from $75,000 to $165,000 per annum.——A joint resolution was passed and signed by the governor thanking the U. S. Public Health Service for the effective work done by Surg. John McMullen in trachoma eradication, and an appropriation of $13,700 was made for a traveling clinic to work in conjunction with Dr. McMullen.

MARYLAND

To Guard Against Smallpox.—To prevent persons from New Orleans race tracks bringing smallpox into Baltimore city or the state, deputies from the state department of health are meeting every race horse train coming here for the spring racing meets. Dr. John S. Fulton, Baltimore, secretary of the board, has been notified by New Orleans health officials that a recent epidemic of the disease in that city claimed many victims among stable boys and other track employees. In spite of the vigilance of Louisiana officials, it is feared that some one suffering from the disease will slip out of the state.

For Care of Soldiers, Sailors and Marines.—The U. S. Public Health Service has entered into an agreement with the state lunacy commission and the board of managers of the Spring Grove State Hospital at Catonsville to care for soldiers, sailors and marines of Maryland suffering from mental disorders in the Arthur D. Foster Psychopathic Clinic, a separate building recently completed. The clinic will be equipped and ready for the reception of patients about May 1, and will afford accommodation for about 100 cases. The U. S. Public Health Service has agreed to furnish a clinical director, a graduate nurse to take charge of the nursing, and an occupational aide.

MICHIGAN

Health Bulletin.—The department of health of Ishpeming began in January the issuing of a monthly bulletin known as the *Ishpeming Health News*, edited by the health officer, Dr. David Littlejohn. The periodical is distributed without charge to the people of the community and contains much valuable information regarding public health.

MINNESOTA

Personal.—Dr. Harry M. E. Lewell of the Mayo Clinic, Rochester, has been appointed superintendent of the Mercy Hospital, Hamilton, Ohio.——Dr. John S. Abbott has succeeded Dr. Robert I. Hubert, resigned, as deputy health officer of St. Paul.——Dr. Herbert G. Lampson, Duluth, has been appointed physician of St. Louis County, succeeding Dr. Daniel F. V. Pennie.——Miss Linda James, St. Paul, has been appointed field secretary of the Minnesota Public Health Association.

Society Organized.—Hennepin County Tuberculosis Association has been organized to succeed the antituberculosis committee of the associated charities. Dr. Henry L. Ulrich, Minneapolis, was elected president; Drs. John W. Bell, Minneapolis, G. D. Health and John G. Gross, Minneapolis, honorary members, and Dr. Hugh C. Arey, Excelsior; Albert J. Chesley, Minneapolis; Henry W. Cook, Minneapolis; Charles E. Dutton, Minneapolis; Charles D. Harrington, Minneapolis; Frank H. Hacking, Minneapolis; Walter J. Marcley, Minneapolis; Ernest S. Mariette, Glen Lake; Harold E. Robertson, Minneapolis; J. Sundwall, Henry E. Ulrich, Minneapolis, and Frederick W. Wittich, Minneapolis, directors.

NEW JERSEY

Personal.—Dr. Walter R. Elliott, West Collingswood, has been elected president of the new Memorial National Bank, Collingswood.——Dr. Benjamin Van Doren Hedges, Plainfield, has been elected secretary of the city board of education.——Dr. Arthur L. Smith, New Brunswick, has been reelected president of the board of education.——Dr Louis Schneider, Newark, has been appointed a member of the board of managers of the Contagious Disease Hospital, Soho.——Dr. John Miller, Netcong, was caught under his overturned sleigh recently and his right leg was fractured.

NEW YORK

Merritt H. Cash Prize.—The Merritt H. Cash prize of $100 provided for by a fund administered by the Medical Society of the State of New York was awarded this year to Dr.

Herman B. Sheffield for an essay on "The Present Status of Poliomyelitis."

State Society Raises Dues.—The Medical Society of the State of New York at its recent meeting amended its by-laws to provide for an increase in the annual per capita dues from $3 to $5. Resolutions were passed instructing the delegates to the meeting of the American Medical Association to submit resolutions opposing compulsory health insurance to the House of Delegates, and to support such resolutions in every possible way.

State Society Elects.—At the annual meeting of the Medical Society of the State of New York, held in New York City, March 22 to 25, 1920, the following officers were elected: president, Dr. John Richard Kevin, Brooklyn; vice presidents, Dr. William Meddaugh Dunning, New York City, Dr. Wesley T. Mulligan, Rochester, and Dr. William H. Purdy, White Plains; secretary, Dr. Edward Livingston Hunt, New York City; assistant secretary, Dr. Charles Gordon Heyd, New York City; treasurer, Dr. Harlow Brooks, New York City; assistant treasurer, Dr. Seth M. Milliken, New York City; speaker of the house of delegates, Dr. Edward Eliot Harris of New York City, and vice speaker, Dr. Dwight H. Murray, Syracuse.

New York City

Physicians' Home.—A number of well known physicians of New York have been granted a charter to establish a Physicians' Home in which medical men who have become incapacitated for work through illness or old age might find an asylum. The president of the movement is Dr. Robert T. Morris; the secretary is Dr. Silas F. Hallock.

New York University Doctors Organize.—Graduates of the New York University and Bellevue Hospital Medical College met March 23 and organized an alumni association, electing the following officers: president, Dr. Robert J. Carlisle; vice president, Dr. Robert J. Wilson; secretary, Dr. Cornelius J. Tyson, and treasurer, Dr. Godfrey R. Pisek.

The Post-Graduate Medical School Fund.—Though the campaign to raise a $2,000,000 endowment fund for the Post-Graduate Medical School and Hospital does not begin until March 30, a number of substantial preliminary gifts have been received. One of these is $50,000 from James C. Brady. Dr. James F. McKernon is chairman of the committee directing the campaign.

New York Physicians Aid Vienna Physicians.—Physicians and surgeons of this city have contributed $10,000 to supply food to the members of the medical profession in Vienna. The money has been turned over to the American Relief Administration for conversion into food drafts. Dr. Linsly R. Williams in Paris will go to Vienna to arrange for the food distribution.

OHIO

Building for Public Health Bodies.—The Toledo Academy of Medicine is planning to purchase the Hurd Democratic Club House which has been offered to it for $42,500. Physicians have already subscribed $20,000 toward the purchase of the property. It is believed that the building will be able to house all the public health organizations of the city, including the visiting nurse association and a medical library.

Must Serve Sentence.—Dr. Raphael W. Miller, convicted in the Cincinnati Municipal Court several years ago on the charge of violation of the narcotic law, has, it is said, lost his appeal in the court of appeals, and will have to serve three months in jail and pay a fine of $500. The conviction, it is said, was the result of a charge that he and a druggist had supplied a woman with narcotics. The druggist was acquitted in the municipal court.

Personal.—Dr. Milo Wilson, Gallipolis, has been transferred from the Ohio Hospital for Epileptics, Gallipolis, to Holzer Hospital, Gallipolis.——Dr. Edwin J. Rose, Gallipolis, has been appointed a member of the staff of the Ohio Hospital for Epileptics, Gallipolis.——Dr. William A. McIntosh, Oberlin, has been appointed health commissioner of Lorain County.——Dr. Philip H. Dorger, city bacteriologist of Cincinnati, has resigned.——Dr. Foy C. Payne, Dayton, has been appointed pathologist; Dr. Robert C. Austin, Dayton, orthopedic surgeon, and R. M. Cope, oral surgeon, to the Stillwater Sanitarium, Dayton.——Dr. Rush R. Richison, Springfield, has been appointed health commissioner of Clark County.——Dr. Carl W. Hoopes, Marysville, has been selected as health commissioner of Union County.——Dr. Daniel E. Rausch, Stone Creek, has been elected president of the Tuscarawas County Board of Health.

PENNSYLVANIA

License Revoked.—The Board of Medical Education and Licensure is said to have revoked the license to practice medicine in Pennsylvania of Dr. Ellsworth J. Trader, Pittsburgh, who is now serving a sentence in the federal prison, Atlanta, Ga., for illegal writing of prescriptions for narcotics.

Medical Legislative Conference of Pennsylvania.—March 13, 1920, representatives of the Eclectic Medical Society, the Homeopathic Medical Society and the Medical Society of the State of Pennsylvania met in Philadelphia and organized the Medical Legislative Conference of Pennsylvania. Dr. George A. Knowles was elected chairman, and Dr. Edward A. Krusen, Norristown, secretary-treasurer.

Adams County Hospital.—The Annie M. Warner County Hospital, Gettysburg, a new hospital building accommodating forty patients, and 6 cases of land have been presented by John M. Warner to a board of managers drawn from every part of the county. The managers have announced the purchase of 14 additional acres of land. A campaign for $100,000 endowment launched last fall will be pressed for early completion.

Health Commission Appointed.—The new state health insurance commission recently appointed by the governor has elected William T. Ramsey, mayor of Chester, chairman; Representative Theodore Campbell, treasurer, and Dr. Francis D. Patterson, Harrisburg, secretary. The commission seeks the cooperation of all physicians, employees, employers, and all other persons interested, in order that it may secure the necessary facts for making a report to submit to the governor which can be made the basis of legislation.

Philadelphia

For Control of City Dumps.—Rigid control of the dumps in the south Philadelphia "neck" district is being planned by Director Furbush of the department of public works as a part of a campaign for the correction of insanitary conditions in the southern part of the city.

Housing Association Annual Meeting.—The annual meeting of the Philadelphia Housing Association was held at the City Club, March 26. According to the annual report of conditions, only 18 per cent. of the 7,662 houses complained about have been corrected and the insanitary area of Philadelphia is increasing.

Personal.—Dr. Robert N. Kelly has been appointed surgeon of the Nautical School, Annapolis.——Dr. Dorothy Child has resigned as director of the bureau of child health in the state department of health to take effect April 1.——Dr. Karl Schaffle has resigned as head of the tuberculosis division of the state department of health.—Dr. Isaac A. Abt, Chicago, delivered an address before the Pediatric Society of Western Pennsylvania at Pittsburgh, March 29.

City Bath Houses Insanitary.—Dr. Hunter Blair Spencer, chief physician of the bureau of corrections and charities, has been making an inspection of the twenty-three public bath houses situated in different sections of the city and has found that some are in an insanitary and dangerous condition and unfit for use. The arrangements of the dressing rooms and shower baths in many of the buildings are dangerous to health, the shower baths draining into the pools.

SOUTH CAROLINA

Personal.—Dr. George McF. Mood has been reelected city bacteriologist of Charleston.——Dr. John G. McMaster, Florence, suffered serious burns of the face and hands, March 3, when he attempted to throw a burning oil stove from his office window.

New Medical Bill.—Governor Cooper on March 10 signed the new medical bill which was drawn by the state medical society and recently passed by the legislature. This bill requires all chiropractors, osteopaths, homeopaths and other healers to submit to examination before the state board of medical examiners.

Medical School Gets Larger Income.—The Medical College of the State of South Carolina secured an appropriation of $71,000 from the state for maintenance, as compared with $49,500 last year. An additional appropriation of $60,000 was made for a physiology building and equipment. The sum of $10,000 was received from the sale of the old medical building.

TENNESSEE

Roentgen-Ray Machine Given Hospital.—A citizen of Memphis who desires to remain anonymous has given a roentgen-ray machine, valued at $1,000, to the Crippled Children's Hospital.

State Association Meeting.—The eighty-seventh annual meeting of the Tennessee Medical Association will be held in Chattanooga, April 6 to 8, under the presidency of Dr. Andrew F. Richards, Sparta. The association will be the guest of the Chattanooga Academy of Medicine.

Personal.—Dr. Cummings Harris has been appointed secretary of the Memphis Health Department, succeeding Dr. Newman Taylor.——Dr. Evander M. Sanders, Nashville, has been appointed surgeon-general on the staff of the governor of Tennessee, succeeding Dr. Mathew C. McGannon, deceased.

TEXAS

New Officers.—At the annual meeting of the Brazos County Medical Association held in Bryan, the following officers were elected: president, Dr. William B. Cline; vice president, Dr. Claude A. Searcy, and secretary-treasurer, Dr. Lonnie O. Wilkerson, all of Bryan.

New Home for Medical Society.—The Bexar County Medical Association has completed a negotiation for the purchase of the Julius Appler property, San Antonio, for $20,000. An auditorium will be arranged on the second floor and the library and pathologic museum will be maintained on the first floor of the building.

Chiropractor Jailed—Byron S. Black, a chiropractor of El Paso, is said to be confined in the county jail serving a sentence of twenty days on two charges of practicing medicine without a license. On the first charge, he is said to have been fined $250 and sentenced to ten days' imprisonment and in the second case fined $50 and sentenced to a similar period in prison.

Medical Board Election.—At the annual meeting of the Texas State Board of Medical Examiners held at Dallas, March 16, the board was reorganized with the election of the following officers: president, D. S. Harris, D.O., Dallas; vice president, Dr. Robert Y. Lacy, Pittsburg, and secretary, Dr. Thomas J. Crowe, Dallas. The next meeting of the board will be held in Galveston, June 21 to 23.

VIRGINIA

Health Almanac Reappears.—The *Virginia Health Almanac*, after an absence of several years, due to the pressure of war conditions, has made its reappearance.

Appropriation for Orthopedic Hospital.—Among the measures passed by the Virginia legislature, March 13, was one appropriating $30,000 to the state board of health for the purpose of building an orthopedic hospital for the treatment of crippled and deformed children.

Reduction of Motherhood Casualties.—Educational work conducted by the bureau of vital statistics of the state board of health saved the lives of 164 mothers in the state in 1919, as compared with the casualty list of motherhood in 1917. In 1913, 408 Virginia mothers died at childbirth; in 1914, 487; in 1915, 469; in 1916, 467, and in 1917, 497.

WISCONSIN

Sanatorium Grounds Enlarged.—The site of the Tri-County Tuberculosis Sanitarium, Washburn, has been enlarged by the donation by F. V. Holston of Bayfield, of a tract of land to be used for park purposes, and to be known as the Lelia A. Holston Memorial Park.

Fox River Physicians Elect Officers.—At the annual meeting of the Fox River Medical Society held in Green Bay, March 4, the following officers were elected: president, Dr. William H. Bartran, Green Bay; vice presidents, Dr. Emile G. Nadeau, Green Bay, and Frank J. Wochos, Kewaunee, and secretary-treasurer, Dr. Robert L. Cowles, Green Bay.

Personal.—Dr. Harry Cohn, Wauwatosa, head of the Milwaukee County Free Medical Dispensary, has resigned and has been succeeded by Dr. Harry W. Sargeant, Wauwatosa.——Dr. Charles A. Lothrop, Ripon, has been elected surgeon to the Wisconsin Veteran's Home, succeeding the late Major Albert E. McCallin.——Dr. Henry Hannum, Bayfield, who has been under treatment at a hospital in Ashland for several months on account of a broken hip, has left for the home of his son in Muskegon.

CANADA

Dominion Physicians to Meet.—The fifty-first annual meeting of the Canadian Medical Association will be held in Vancouver, B. C., June 22 to 25, under the presidency of Dr. Simeon E. Grondin, Quebec. At the same time the Canadian Public Health Association, Canadian Association for the Prevention of Tuberculosis, Canadian Committee on Mental Hygiene, National Committee for Combating Venereal Diseases, and British Columbia Hospital Association will hold their annual meetings.

Personal.—Dr. W. M. Douglas Cruickshank, Hamilton, Ont., formerly Captain, C. A. M. C., and house surgeon in the New York Lying-In Hospital, and resident gynecologist to the Woman's Hospital, New York City, is now professor of obstetrics and gynecology in the Syrian Protestant College, Beirut, Syria.——Dr. John Stewart, Halifax, has been appointed dean of the faculty of medicine of Dalhousie University.——Dr. Edward C. Arthur, Nelson, has been appointed traveling medical officer for the province of British Columbia.——Dr. Frederick W. Marlow, Toronto, has been elected chairman of the special committee in Toronto on venereal diseases.

GENERAL

General Blue Goes Abroad.—Dr. Rupert Blue, formerly Surgeon-General, U. S. Public Health Service, left New York, March 27, for Southampton on official business.

Western Electrotherapists to Meet.—The annual meeting of the Western Electro-Therapeutic Association will be held in Kansas City, Mo., May 27 and 28, under the presidency of Dr. Burton B. Grover, Colorado Springs, Colo.

Grant for Research Work.—The American Pharmaceutical Association announces that it has available a sum amounting to about $450 which will be expended after Oct. 1, 1920, for the encouragement of research either in full or in such fractions as in the judgment of the research committee of the association will produce the greatest good to American pharmaceutical research. Investigators desiring financial aid in the work should communicate with H. V. Arny, chairman of the American Pharmaceutical Association, Research Committee, 115 West Sixty-Eighth Street, New York City, before May 1, giving their record and outlining the particular line of work for which the grant is required. The awards will be made at the meeting of the American Pharmaceutical Association in Washington, May 3 to 8.

Honest Merchandise Act Introduced.—Congressman Rogers of Massachusetts has introduced in the House a bill to protect the public against fraud by prohibiting the manufacture, sale or transportation of misbranded, misrepresented or falsely described articles in interstate commerce. The measure is known as the Honest Merchandise Act. It applies to drugs and any articles of general manufacture. The bill places a penalty on misbranding any article offered for sale and transmitted in interstate commerce. It requires the contents of each article in package form to show on its outside the terms of weight, measure and quality; it requires that the examination of specimens shall be made in the Bureau of Standards at Washington, D. C., for the purpose of ascertaining whether such articles are described within the meaning of the bill and places a penalty of $1,000 or imprisonment for one year on offenders.

Society for Visual Education Incorporated.—Recently, a group of educators, most of them prominent in university circles, have organized a society for visual education, to promote the cause of visual education in general, and the use of motion pictures in particular. It is stated that the society does not propose to displace textbooks, models, maps or any other educational means, but to supplement them and to make them more available. The society also proposes to publish a monthly periodical called *Visual Education*, the first number of which has been issued. The personnel of the organization, in addition to the officers, Rollin D. Salisbury, University of Chicago, president; F. R. Moulton, University of Chicago, secretary, and H. L. Clark, Utilities Development Corporation, vice president and general manager, includes a board of directors, representing most of the universities, a large general advisory board and special committees in all the various sciences and educational departments. The address of the organization is 327 South LaSalle Street, Chicago.

Influenza Epidemic Over.—The sharp decline in the morbidity and mortality rates from influenza and pneumonia for the week ending March 13 indicates that the epidemic is

practically over. The epidemic reached its height in the week ending February 14, when 267,643 cases were reported from forty-one states and the excess annual death rate as compared with the average for the period from 1910 to 1916 was 1,319. The weekly ratios of excess annual death rate for the seven weeks ending Jan. 17 to March 13, 1920, respectively, as compared to corresponding weeks ending Sept. 28 to Nov. 23, 1918, respectively, were 0.086, 0.232, 0.311, 0.282, 0.293, 0.277, 0.260, 0.243 and 0.184.——The Bureau of the Census has just issued a special report on the mortality in Indiana, Kansas and Philadelphia for the period, Sept. 1 to Dec. 31, 1918. It is estimated that 445,000 deaths from the epidemic of influenza occurred in the United States in that period. According to age periods, the highest rates occurred in the age period from 30 to 34 years, with the period 25 to 29 years second. Of all of the deaths tabulated, more than half occurred between the period of 20 to 40, although this age group represents only 33 per cent. of the total population concerned. Particularly important are the data relative to stillbirths. The large number of stillbirths occurring clearly points to the epidemic as the cause, and shows definitely the serious effect of the epidemic on pregnant women.

Bequests and Donations.—The following bequests and donations have recently been announced:

Bryn Mawr, Pa., Hospital, Maternity Ward Building Fund, $5,307.50, the proceeds of the Bryn Mawr horse show.

Elizabeth, N. J., General Hospital, $2,000, by the will of William T. Day, Newark.

Memorial Hospital, Morristown, N. J., two plots of land valued at $20,000 and $25,000, donated by Mrs. Marcellus Hartley Dodge.

Somerset, N. J., Hospital, one-half interest in the home and property of J. C. Kenyon, Raritan.

Lewistown, Pa., Hospital, $1,500, by the will of Harriet Thomas Kurtz.

University of Pennsylvania, Philadelphia, $50,000 for the establishment of a chair of gynecology, by the estate of Dr. William C. Goodell.

Methodist Episcopal Hospital, Philadelphia, $25,000, the income to be used for maintenance of five free beds, by the will of Thomas Bradley.

Ohio-Miami Medical College, University of Cincinnati, a donation of $100,000 to establish a department of preventive medicine in memory of the late Dr. Christian R. Holmes, by Mrs. Charles Fleischmann.

Ohio-Miami Medical College, University of Cincinnati, a donation of $3,000 toward the equipment of a laboratory in the department of preventive medicine by Mrs. Christian R. Holmes, in memory of her husband.

St. Luke's Hospital, New York City, and American Red Cross, equal shares of the residuary estate of $2,423,784, by the will of James C. Scrymser.

Henry Street Settlement, New York City, a donation of $50,000, by Misses Alice D. and Irene Lewisohn.

FOREIGN

Personal.—Dr. Francisco Oliver, professor in the University of Zaragoza, Spain, has arrived in this country where he has been sent by the government of Spain to make special studies on methods to combat tuberculosis. Dr. Oliver was recently in England on a similar mission. He expects to stay in the United States until July.

Plague in Netherlands India.—Our Netherlands exchanges cite figures which show a flaring up of the plague in the Dutch East Indies. Since the serious epidemic of several years ago there have been only a few cases of plague here and there in the islands every week but in January there was a total of 1,746 cases in eight different places, all fatal.

Deaths in the Profession Abroad.—Dr. **B. Gieseker,** dean of the physicians of Zurich, Switzerland, aged 79.——Dr. **A. Zoppi** of Venice, a prominent surgeon and orthopedist.——Dr. **G. Huguenin,** formerly professor of psychiatry and chief of the medical clinic at Zurich, aged 80.——Dr. **C. Grube,** instructor in physiology at the University of Bonn, aged 53.——Dr. **H. Marx,** author of several works on medicolegal questions, aged 45.——Dr. **H. Schwiening,** chief of the medical statistics service at Berlin, aged 50.——Dr. **M. Stolz,** professor of gynecology at Graz.——Dr. **Gurrucharri,** dean of the watering place physicians of Spain.——Dr. **H. Triboulet,** physician in chief of the Trousseau Hospital at Paris, aged 56.

The Five Hundredth Anniversary of the Rostock University.—The University of Rostock celebrated recently with much formality the quincentennial of its foundation. The other German universities were represented officially by Professor Pels-Leusden, from the daughter university at Greifswald, the Danish university was represented by Professor Johannsen of Copenhagen, and the Swedish academies of science by the explorer, Sven Hedin. Professor Lundström of Göteborg presented in the name of the Swedish Reichsverein an endowment of 300,000 marks for fellowships for northland students at the Rostock University. Honorary degrees were conferred on the German surgeons Madelung and Trendelenburg; and the Berlin physicists Einstein and Planck were elected honorary members of the medical faculty. Prof. R. Kobert of the University of Rostock, whose name is well known for his research on pharmacology and physiologic chemistry, did not live to see the celebration, his death occurring earlier in the year. Rostock is nearly south of Copenhagen, on the Baltic coast.

LATIN AMERICA

Quarantine Against Havana.—The Superior Board of Health of Mexico has decided to place in quarantine all ships from Havana because of the epidemic of meningitis in that city.

Smallpox Epidemic in Mexico.—It is officially announced that there have been outbreaks of smallpox in the states of Sonora, Chiapas, Oaxaca, Morelos, Chihuahua and Guerrero. The disease continues to spread.

Gorgas in Charge of Sanitation in Peru.—Major-Gen. W. C. Gorgas has been placed in charge by the government of Peru of all sanitary works, to be conducted on the seacoast of that country for the purpose of eradicating and preventing yellow fever, plague and other diseases. Dr. Gorgas' official title will be director general of sanitation, and his salary 30,000 *soles* (about $15,000).

Deaths in the Profession.—Dr. **Liborio Zerda,** professor of medicine and the natural sciences at Bogota for three generations of students, regent for many years of the medical faculty, and later ministro del despacho ejecutivo in the department of public instruction, member of various scientific societies at home and abroad and author of several works, including "Hipiátrica" and "Visión y Luz," aged 85.——Dr. **Luis Alonso y Patiño** of Durango, Mexico, former governor of the state of Durango.

Government Services

Public Health Service Takes Over Army Hospitals

The War Department has turned over to the Public Health Service the Whipple Barracks in Arizona and the Fort William Henry Harrison Post in Montana. These posts are of such a character that, in the opinion of the Public Health Service officials, they can be readily converted for the use of Army service patients at a minimum of expense. Thus, the construction of new buildings at high cost for hospital purposes will be avoided.

Disease Conditions in the Army for the Week Ending March 24

There has been a slight recrudescence of influenza at Camps Gordon, Dodge and Jackson, with a slight addition in pneumonia admissions as well. Measles continue about the same, eighteen new cases being reported from Camp Knox. The admission and noneffective rates continue to show slight decline. A comparison of admission rates for influenza and pneumonia and the admission rates for disease during the epidemic period of 1918 as compared with 1920 indicates that the recent epidemic was much less severe. The highest death rate for disease during each epidemic occurred during the fourth week.

Appropriation Requested for Public Health Service

The Surgeon-General of the Public Health Service has made request of the Committee on Appropriations of the House for an appropriation of $500,000. This is intended to be used, in addition to $700,000, heretofore granted by Congress for hospital and sanatorium facilities in army service cases. The funds now requested are to be particularly employed in completing alterations on properties already secured from other government departments. Included in these is the Philadelphia Naval Hospital, which will be used by the Public Health Service as a hospital for neuropsychiatric patients. This work will cost, it is estimated, $75,000. The hospital will have a capacity of 375 beds. By the expenditures of this $75,000 on the Philadelphia Hospital, the Public Health Service will secure a property the duplication of which, it is claimed, would cost more than a million dollars.

Foreign Letters

MADRID

Feb. 10, 1920.

Scientific Courses Organized by the Board of Graduate Studies

The Board of Graduate Studies is a state agency headed by Cajal. The secretary, Don José Castillejo, is always on the lookout for professors who may contribute to the spread of experimental science in Spain. Its courses are practical. The board, in previous years, has brought to Spain A. Fourneau of the Pasteur Institute, who gave a course on drug synthesis; Urbain of the Sorbonne, who lectured on physical chemistry; Hadamaid, also of the Sorbonne, who lectured on mathematics, and Leclerc du Sablon of Tolosa University, who gave a course on vegetal physiology. The board has broadened its efforts, and is now announcing courses by Prof. Lewis Knudson of Cornell University on vegetal physiology; Miss Louise Cheever of Smith College on nineteenth century English literature; Professor Mazé of the Pasteur Institute, on the dairy industry; Professor Pettit of the Pasteur Institute, on bacteriology, and Professor Frouin, on the physiology of digestion. Meanwhile, courses have already been begun by Professor Gutierrez of the Buenos Aires University on the anatomic foundation of surgery, and Professor Fuchs of Vienna on ocular pathology. Professor Avelino Gutierrez is a Spaniard, who has made a name for himself in Argentina. His first lecture was attended by all the professors, many physicians, and all the students. His first lecture illustrated the method followed throughout his course. He showed on the cadaver the parotid region, emphasizing the value of anatomy in order to operate without danger and locate without trouble the most delicate organs.

FUCHS' COURSE

Professor Fuchs' course has greatly impressed the Spanish ophthalmologists, even if all of them are familiar with the great work accomplished by the professor of ophthalmology of the University of Vienna. With the aid of a projection apparatus, Fuchs lectures in Cajal's laboratory, and discusses his collection of 700 different preparations, which he brought from Vienna and which represent his life's work. Some have been obtained under such circumstances that it would be practically impossible to duplicate them, and many were the starting point for new doctrines, which have now become ophthalmologic tenets. Fuchs, who had made a fortune of several million kroner, is one of the victims of the war, and after retiring from his chair was compelled to accept the proposition of the Board of Graduate Studies. This gave him the opportunity to spend a few months away from the city of hunger, the once gay Vienna, which used to be so popular among young American physicians. The case of Fuchs, who has always kept apart from all hatred, being a soldier only in the army which fights pain and disease, is tragic. An old man, after retiring from his profession, and no longer able to replace what he has lost, he has been compelled to abandon his country, bid good-bye to his family, and accept the offer of a few lectures; and still, this scientist, this worshipper of science, puts into his course an enthusiasm, and we may say love, which is full of life, and he demonstrates his anatomic specimens with so much pleasure and fervor that he seems to forget himself and rises to the serene heights of science.

Attack on the School of Medicine

The Senate is still discussing the law for the self-government of universities, and we already begin to see signs in the newspapers and the academies that the universities do not deserve this privilege. Dr. Lafora, a prominent neurologist, educated in the United States, delivered a lecture in the Atheneum of Madrid attacking the School of Medicine of Madrid, as regards its buildings, its organization and its professors. His criticism was very bitter, and it attracted much attention, because of Dr. Lafora's prominence. It received, however, even more publicity through the defense made by the dean and professor of gynecology of the same school, Dr. Don Sebastián Recasens, who, if anything, made things worse. He agreed that there was need for new buildings, and did not answer Dr. Lafora's charges regarding the organization and professors of the school. In general, it seemed as if Dr. Recasens was trying to defend himself, and forgot all about the others.

LONDON

March 6, 1920.

Proposed Chair of Radiology

It is proposed to establish a chair of radiology at a university as a memorial to Mackenzie Davidson. This pioneer began as an ophthalmologist, and it was only in order to obtain help in his eye work that he turned to the roentgen rays. Soon he was enthralled by their possibilities, and he set himself to master the new craft. Of his important researches the best known is his "cross thread" method of localizing foreign bodies, which was used extensively in the war. An appeal for funds to establish the chair is published over the signatures of public men, scientists and leaders of the medical profession. It is pointed out that, remarkable as has been the development of radiology during the war, watchfulness is necessary lest full advantage be not taken of this stimulus and a period of reaction set in. There is pressing need of unremitting research. For this the best equipment possible is required and also a more thorough and systematic scheme of teaching. The University of Cambridge is alive to these requirements and has established a diploma in radiology and electrology. It is felt that the success of this step will be greatly assured if similar facilities are provided in London. The death of Mackenzie Davidson in the prime of life deprived radiology of its foremost exponent. He was unsparing in his efforts to raise the status of radiology among the sciences and was insistent on the fundamental value of physics, particularly in regard to methods of measurement and the designing of equipment. Many in his own branch of the profession, and a number of his friends and former patients, wishing to keep his memory green, have suggested that an appeal for funds should be made to found a Mackenzie Davidson chair of Radiology at some university. Until quite recently, radiology has been regarded as a purely medical subject; but experimental researches have shown that it is of commercial use. A new subject, radiometallography, has come into being and offers great possibilities for examining the internal structure of metals and other material—a further reason for the proposal.

Awards for Scientific Discoveries

The proposal that state awards should be made for scientific discoveries has been recommended by a joint committee of the British Medical Association and the British Science Guild (THE JOURNAL, Jan. 31, 1920, p. 337). A deputation from the Medical Committee of the House of Commons has waited on Mr. Balfour and asked that the government initiate a system of awards for medical and scientific discoveries. The deputation suggested the setting aside of $100,000 a year on the lines of the Nobel prizes. Mr. Balfour received the deputation sympathetically, but pointed out the difficulty of settling priority in scientific discovery. He urged that a better method would be to put investigators in a more com-

fortable position for carrying on research work. As an aftermath of the representations of the deputation, the medical members of Parliament are considering the advisability of forming themselves into a committee to further the scheme of pensions for scientific men who have enriched the world by their discoveries. The view that it would be difficult to determine who are the proper recipients of pensions is not considered valid. Nor does the proposal to expend the money in further endowments of the Medical Research Committee find favor. The committee has done good work, but it cannot be maintained that original genius will not show itself outside the ranks of its staff.

The International Organisation of Medical Societies

At the house of the Royal Society of Medicine, an informal meeting has been held to hear Dr. F. F. Simpson, who is on a mission from the United States of America to explain to the allied profession of Europe a scheme for the simultaneous meetings of international associations in the various departments of medicine. The idea is that in each country there should be a national association for each department of medical science, such as anatomy, physiology, surgery and gynecology, and that the national associations should be linked together to form international associations. There would be an international council to keep the various international associations in relation to one another to arrange for simultaneous meetings in selected countries. Dr. Simpson proposed the immediate constitution of a provisional committee, consisting of two representatives each of Belgium, France, Great Britain, Italy and the United States, which might meet in March to draw up suggestions to submit to certain congresses which are to be held in Paris this year. Sir Wilmot Herringham, who was the general secretary of the last international congress, held in London in 1913, criticized the proposal and has given his views in a letter to the *British Medical Journal*. International congresses, he says, have been open to all comers, and have in consequence become immense pleasure parties rather than centers of serious work. The proposed organization rests on permanent international associations, such as now exist in surgery, gynecology, etc., and are composed of those specially interested in the subjects, who are already in the habit of holding international conferences and meet for work rather than play. It was expressly stated that the new organization was not intended to supersede international medical congresses. Sir Wilmot hopes that these will die a natural death. The staff of the new organization will be more permanent than that of the old. In the new scheme Sir Wilmot Herringham finds nothing to criticize except that there is not enough business to keep alive either the proposed national executive council or the international executive council. Men will not take trouble for business that is formal. A serious disadvantage is that only allied countries will be admitted to the organization. It is not yet possible to meet enemy nations in a friendly spirit, and it will be long before that time comes about. Yet at some time or other international animosities will be softened. But an organization confined to the Allies, and yet calling itself international, is a way to perpetuate the feud which it is the interest of the world to compose. The meeting finally decided to ask the council of each of the sections of the Royal Society of Medicine and of any other suitable body whether it desires international organization for its specialty.

Osler's Successor

Sir A. E. Garrod, physician to St. Bartholomew's Hospital, who was recently appointed director of the clinical unit, has been appointed regius professor of medicine in the University of Oxford in succession to Sir William Osler. He is also consulting physician to the Hospital for Sick Children, Great Ormond Street. He is 62 years of age and is the son of the Dr. Garrod who discovered uric acid in the blood in gout. His work has been mainly on diseases of metabolism, in which he is a distinguished authority. His publications, which are all of the first importance, include: "Treatise on Rheumatism and Rheumatoid Arthritis"; "Inborn Errors of Metabolism"; "Enterogenous Cyanosis"; "Urine" and "Uremia" (in Osler and McCrae's System of Medicine); "Urinary Pigments in Their Pathological Aspects," and "Glycosuria."

PARIS

Feb. 19, 1920.

Present State of Medical Journalism in France

The war and the economic crisis that followed it have brought about a serious state of affairs in medical journalism. Most of the journals that ceased publication during the war have resumed publication, but some have disappeared. The *Semaine médicale*, established in 1881, has ceased publication. During the thirty odd years of its existence it had acquired a unique position and a universal reputation.

The *Presse médicale* for some time past has been devoting more space to foreign medical current literature. It publishes not only numerous abstracts from medical journals, but also articles of a general nature designed to keep its readers informed in regard to events happening in the medical world (Dr. Pagniez). There is a department of surgery, in the hands of Dr. Lenormant, and a therapeutic department, at the head of which is Dr. Cheinisse.

The *Bulletin médical* has commenced the publication of a special monthly edition for foreign countries. It does not give the reports of societies. The entire first special number was devoted to purulent pleurisy.

The *Gazette des hôpitaux*, since the beginning of the year, has been publishing special numbers devoted to the bibliography of various pathologic subjects.

La Médecine, a monthly review, confines its attention in each number to the progress that has been made in some one branch of medical science; for example, the January issue is devoted to ophthalmology and otolaryngology. At the end of each article it gives a short abstract in both English and Spanish. The *Journal de médecine de Bordeaux* has likewise adopted this plan of short abstracts at the end of articles.

The *Journal de médecine de Paris* has put at the top of its first cover the following request in English: "Please read this paper, you will know the work of the French medicine."

On account of the increased cost of publication the medical journals have been obliged to raise the price of subscriptions. It is doubtless owing to the stress of present economic conditions that the *Journal de médecine de Paris* makes an announcement that one does not expect to find in a medical journal: "Persons sending in ten subscriptions at one time will be entitled to one subscription free."

In order to make it easier to cope with the present unfavorable economic conditions, the *Journal des Praticiens*, which recently published an editorial on the significant subject, "Scientific Journals in a Life and Death Struggle," has demanded that government subsidies, instead of going to political journals as at present, should be given to aid in the publication of scientific journals.

The Belgian medical review, *Le Scalpel*, points out another way of securing relief, which may be applicable to the Belgian medical press at least. Generous America having recently given to the Belgian universities a considerable sum of money to be used in subsidizing scientific research, *Le Scalpel* offers the suggestion that the scientific press of Belgium might experience a happy secondary reaction from this example of American generosity, if the scholars to whom the benefits primarily inure would be disinterested enough to furnish the

scientific press with gratuitous reports of their investigations and discoveries.

A new provincial journal, the *Journal de médecine de Lyon*, has appeared. It is a bimonthly and is published under the scientific direction of Profs. Joseph Teissier, Edmond Weill, Jean Lépine (son of the late Raphael Lépine), and others. It is devoted especially to the publication of news and of medical articles contributed by the physicians of the region about Lyons.

Among the special journals I may mention the *Revue de gynécologie et de chirurgie abdominale*, of which the late Prof. Samuel Pozzi was the managing editor, but which has now ceased publication. The *Annales de gynécologie et d'obstétrique*, at the head of which were Professors Pinard, Hartmann and Pollosson, and the *Archives mensuelles d'obstétrique et de gynécologie*, of which Profs. Paul Bar and J.-L. Faure were managing editors, combined the first of the year and now constitute a single review known as *Gynécologie et Obstétrique*.

Lethargic Encephalitis

New cases of lethargic encephalitis are reported from almost every section of the country. However, it would now appear that the situation is by no means as serious as was at first supposed. The Conseil d'hygiène of the department of the Seine has deemed it wise to call the attention of the Corps médical to the appearance of the disease in question and to the desirability of receiving from physicians reports of all cases that they may have an opportunity to observe. The Académie de médecine, at the suggestion of Dr. Netter, has likewise requested that physicians report to the academy all cases of undoubted and doubtful lethargic encephalitis that they may observe.

Serums Furnished by the Paris Pasteur Institute

Since 1894 the Pasteur Institute had been furnishing gratuitously to all prefectures all the diphtheria antitoxin needed in hospitals and in free dispensaries for the poor. Since the discovery of new serums the prefects had demanded not only diphtheria antitoxin, but also all the new serums, and especially the serums used against tetanus, the meningococcus, the streptococcus and the pneumococcus. While pharmacists were in the habit of keeping on hand a supply of diphtheria antitoxin, they did not, as a rule, have the other serums in stock, and, as the physicians could procure them only in the prefectures, the result has been that serums intended for the poor have been used for the treatment of patients who are able to pay.

In view of this condition of affairs, it has been decided that the Pasteur Institute will continue to provide serums directly and gratuitously to the hospitals, but that for serums furnished to physicians, private individuals, and public prophylactic services a charge will be made through the pharmacists from whom they may be secured. The pharmacists will procure their stocks through their associations and the latter will be provided for by the Pasteur Institute. Furthermore, no speculation will be tolerated on the part of the pharmacists, the highest price that can be charged for any serum furnished by the Pasteur Institute being 4 francs per dose.

Marriages

THOMAS ALBERT WILLIAMS, Middletown, Va., to Miss Marie Pittman of Charles Town, W. Va., in Washington, D. C., February 11.

ROBERT WALDORF FISHER to Mrs. Emily White Mills, both of Morgantown, W. Va., February 13.

MILLARD WILSON HALL, Wichita, Kan., to Miss Sadie Hall of Ottawa, Ill., March 10.

Deaths

Frederick Thomas Reyling ● Kansas City, Mo.; University of the City of New York, 1884; aged 59; a member of the American Academy of Ophthalmology and Oto-Laryngology; a specialist on diseases of the eye and ear; instructor in histology in his alma mater from 1884 to 1892; professor of materia medica and therapeutics in the New York College of Comparative Histology and Veterinary Surgery, and instructor in diseases of the eye in the New York Post-Graduate School and Hospital from 1889 to 1896; professor of histology and pathology in the University Medical College, Kansas City, from 1899 to 1901, and professor of histology, pathology and bacteriology in the College of Physicians and Surgeons, Kansas City, Kan., from 1901 to 1905; died, February 24, from pneumonia.

Ghobal Vail Clevenger, Chicago; Chicago Medical College, 1879; aged 77; a veteran of the Civil War; chief engineer of the Southern Dakota Railway; special pathologist to Cook County Institutions, Dunning; superintendent of the Illinois Eastern Hospital for the Insane, Kankakee, in 1893; for several years neurologist to the Alexian Brothers and Michael Reese hospitals; lecturer on art anatomy at the Chicago Art Institute, on physics at the Chicago College of Pharmacy and on medical jurisprudence in the Chicago College of Law; a prolific contributor to medical literature; one of the founders and first secretary of the Chicago Academy of Medicine; author of a two volume work on "Medical Jurisprudence of Insanity"; died, March 24, from cerebral hemorrhage.

Kimbell W. Leland, Utica, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1879; Rush Medical College, 1892; aged 62; a member of the Illinois State Medical Society; president of the LaSalle County Medical Society in 1899; formerly mayor and health officer of Utica, and president of the Utica school board; chairman of the board of directors of the new LaSalle County Tuberculosis Sanatorium, South Ottawa; died in St. Mary's Hospital, LaSalle, Ill., March 12, from pneumonia.

Charles Edward Whiteside, Moline, Ill.; College of Physicians and Surgeons, Chicago, 1894; aged 50; a member of the Illinois State Medical Society; once alderman of Moline; lieutenant and assistant surgeon, Illinois National Guard, and assigned to the Sixth Infantry during the war with Spain; died in the North Chicago Hospital, Chicago, March 20, from carcinoma of the lower jaw.

Frederick Jacob Lovisour ● New York City; University of Goettingen, Germany, 1884; aged 59; a specialist in dermatology; a member of the American Dermatological Society and New York Academy of Medicine; consulting dermatologist to the Montefiore Home and Hebrew Orphan Asylum, and chief of the dermatological clinic of Mt. Sinai Hospital; died, March 9.

William Charles Chilson ● Tulare, Calif.; University of California, San Francisco, 1902; aged 43; Captain, M. R. C., U. S. Army, with service overseas, and discharged September 4, 1919; was found dead in a hotel in Fresno, Calif., March 10, from the effects of a gunshot wound of the heart, believed to have been self-inflicted, with suicidal intent.

William Teel Montgomery ● Chicago and Evanston, Ill.; Rush Medical College, 1871; aged 76; a veteran of the Civil War; a specialist on diseases of the eye and ear; oculist to Presbyterian Hospital, and a trustee of the Illinois State Charitable Eye and Ear Infirmary; died in Evanston, March 25.

John Loren McAllister, Martinsville, Ohio; Ohio Medical University, Columbus, 1905; aged 39; a member of the Ohio State Medical Association; captain, M. R. C., U. S. Army, and on duty with the Eighty-Fourth Division, A. E. F., in France, and discharged Aug. 22, 1919; died, March 12, from influenza.

Allen R. Holshouser, Rockwell, N. C.; Chattanooga (Tenn.) Medical College, 1904; aged 66; while driving in an automobile over a grade crossing near Sallsbury, N. C., February 24, was struck by a locomotive, fracturing both legs and causing other injuries, from which he died, February 26.

Louis B. Carson, Maquoketa, Iowa; Hahnemann Medical College, Chicago, 1892; aged 47; a member of the Iowa State

● Indicates "Fellow" of the American Medical Association.

Medical Society; captain, M. R. C., U. S. Army, and discharged March 19, 1918; supreme medical director of the Home Guards of the World; died, March 10, from heart disease.

James Lenox Rea ● Scranton, Pa.; Jefferson Medical College, 1876; aged 65; once president of the Lackawanna County Medical Society; consulting physician to the State Hospital for Northwestern Pennsylvania, Scranton; surgeon of the Delaware and Hudson Railroad; physician to the Oral School for the Deaf, Scranton; died, February 22.

George Read Skinner, Marion, Iowa; Bellevue Hospital Medical College, 1866; aged 83; a member and once treasurer of the Iowa State Medical Society; consulting surgeon to St. Luke's Hospital, Marion; a veteran of the Civil War; died at the home of his son in St. Louis, March 10.

Willoughby C. Kline, Myerstown, Pa.; University of Pennsylvania, Philadelphia, 1872; aged 69; for many years a druggist and practitioner of Myerstown; a member of the state pharmaceutical association, and a director of the Myerstown Trust Company; died, March 15.

Vincent Joseph Campisi, Brooklyn; Long Island College Hospital, Brooklyn, 1914; aged 32; was summoned to a tenement house in Brooklyn, March 25; and was found there stabbed to death. The body of the supposed patient was found in the same room strangled to death.

Julian Besel Beck, Chicago; College of Physicians and Surgeons, Chicago, 1904; aged 43; a member of the Illinois State Medical Society; assistant professor of dermatology in Loyola University; died in Mount Sinai Hospital, Chicago, March 25, from cerebral hemorrhage.

James P. Saffold, Washington, D. C.; Columbian University, Washington, D. C., 1885; aged 65; since 1888 an employee of the Treasury Department and assistant chief of division in the office of the Auditor for the Navy; died, February 29, from heart disease.

Pierre S. Starr, Hartford, Conn.; University of the City of New York, 1862; aged 89; assistant surgeon of the Thirty-Ninth Ohio Volunteer Infantry during the Civil War; who fell and fractured his hip, February 27; died in the Hartford Hospital, March 11.

William A. Batchelor ● Milwaukee; University of Pennsylvania, Philadelphia, 1884; aged 63; surgeon to the Milwaukee Hospital, Illinois Steel Company, and Chicago, Lake Shore and Eastern Railroad; died in Cleveland, March 18, from heart disease.

William Ralph Buchanan, Major, M. C., U. S. Army, Washington, D. C.; Hahnemann Medical College, Philadelphia, 1902; aged 49; who was undergoing physical reconstruction; died in the Walter Reed General Hospital, Takoma Park, D. C., March 5.

Samuel Hollis, Hartford City, Ind; Kentucky School of Medicine, Louisville, 1879; aged 68; a member of the Indiana State Medical Association; while making a professional call near Hartford City, March 13, died suddenly from heart disease.

Walter McTaggart, Harrisburg, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1884; aged 57; a member of the Illinois State Medical Society; died at the home of his daughter in Mt. Vernon, Ill., March 11, from septicemia.

Daniel Russell Phillips, Leavenworth, Kan.; College of Physicians and Surgeons in the City of New York, 1887; aged 56; a member of the Kansas Medical Society; died in Topeka, Kan., March 5, from myocarditis.

Walter Thomas Hall, Toulon, Ill.; Medical Department University of Iowa, Keokuk, 1869; aged 79; once president of the Stark County Medical Society and president of the board of health of Toulon; died, March 8.

William W. Ray, Eastover, S. C.; Kentucky School of Medicine, Louisville, 1869; aged 61; a member of the South Carolina Legislature in 1884; died in the Columbia (S. C.) Hospital, March 1, from angina pectoris.

Barton Pitts, St. Joseph, Mo.; University of Maryland, Baltimore, 1881; aged 60; a member of the Missouri State Medical Association; a specialist on diseases of the eye and ear; died, March 10, from heart disease.

Robert Charles Dickinson, Brundidge, Ala.; Memphis (Tenn.) Hospital Medical College, 1901; aged 50; a member of the Medical Association of the State of Alabama; died, about March 4, from heart disease.

Jonathan Franklin Richardson, Waukegan, Ill.; Medical Department, University of Iowa, Keokuk, 1864; aged 83; for many years a practitioner of Keota, Iowa; died, March 18.

Lee Roy Burdeshaw ● Headland, Ala.; Chattanooga (Tenn.) Medical College, 1899; aged 44; once president of the Henry County Medical Society; died, March 6, from cardiorenal disease.

James B. Campbell, London, Ont.; Western University, London, Ont., 1898; associate professor of physiology and later associate professor of medicine in his alma mater; died, February 9.

Martin Toner Balsley ● Joplin, Mo.; Medical College of Indiana, Indianapolis, 1881; aged 65; formerly of Indianapolis and Danville, Ill.; died, about March 13, from valvular heart disease.

Logan D. Berry, Danville, Ga.; Atlanta School of Medicine, Atlanta, Ga., 1909; aged 38; a member of the Medical Association of Georgia; died, about February 29, from influenza.

Ernest Major Jordan ● Boston; Boston University, 1899; aged 48; for seven years professor of nervous diseases in his alma mater; died, March 13, from pernicious anemia.

Bruce Raynor Leighton ● Kalamazoo, Mich.; Western Reserve University, Cleveland, 1912; aged 36; died in the Boggess Hospital, Kalamazoo, January 24, from pneumonia.

George S. Carter, Beckville, Texas (license, Sixth Judicial Board, Texas, 1889); aged 58; died at the home of his daughter in Marshall, Texas, March 4, from tuberculosis.

Richard McSherry, Littlestown, Pa.; University of Maryland, Baltimore, 1880; aged 64; for many years a practitioner of Baltimore; died, March 12, from cerebral hemorrhage.

Archie B. Atchison, Winnebago, Ill.; Hahnemann Medical College, Chicago, 1899; aged 49; died in Irvington, Ala., March 9, from heart disease following influenza.

Samuel Vincent Romig, Chicago; University of Michigan, Ann Arbor, 1872; aged 78; for many years a practitioner of Rockford and Winnebago, Ill., died, March 8.

Nicholas C. Trout ● Fairfield, Pa.; Jefferson Medical College, 1895; aged 53; a director of the Gettysburg National Bank; died, March 23, from diabetes.

J. Carl Smith, Ellerslie, Md.; Baltimore University, 1888; aged 59; died in Franklin Square Hospital, Baltimore, February 28, from cerebral hemorrhage.

Layton W. Cooke, Fruitdale, S. D.; College of Physicians and Surgeons, Keokuk, Iowa, 1884; aged 68; died, about March 12, from pneumonia.

Charles E. Schmitz, Cambridge, Ida.; Barnes Medical College, St. Louis, 1903; aged 40; died, February 23, from pneumonia following influenza.

Richard H. Dinse, St. Louis; St. Louis College of Physicians and Surgeons, 1887; aged 51; died, March 8, from cardiorenal disease.

Julius Goldsmith, New York City; Eclectic Medical College of the City of New York, 1905; aged 46; died, March 10, from pneumonia.

Edwin R. Baker, Philipsburg, Ohio; Medical College of Ohio, Cincinnati, 1876; aged 68; died, March 5, from bronchopneumonia.

Charles Lee Holloway, St. Joseph, Mo.; Kansas City (Mo.) Medical College, 1885; aged 53; died, February 22, from diabetes.

Boston N. Speer, Monclova, Coahuila, Mex.; Chattanooga (Tenn.) Medical College, 1897; died, March 14, from heart disease.

Ethan Allen DeCamp ● Flint, Mich.; Detroit College of Medicine, 1900; aged 55; died, March 7, from malignant disease.

George Sumner Provine ● Blandinsville, Ill.; University of Illinois, Chicago, 1906; aged 37; died recently from appendicitis.

Rufus H. Starks, Benton, Ky.; Louisville, Ky., Medical College, 1888; aged 67; died, February 26, from dysentery.

Helen E. Hill, Brooklyn, N. Y.; Eclectic Medical College of the City of New York, 1881; aged 80; died, March 20.

Alexander O'Neil, Lansing, Mich.; University of Michigan, Ann Arbor, 1868; aged 72; died, March 4.

William Stairs Morrow, Montreal; McGill University, Montreal, 1881; aged 50; died, recently.

Correction.—A telegram from Dr. William C. Hassler, health officer of San Francisco, whose death was erroneously noted in THE JOURNAL of March 27, states that he has been ill with influenza, but has recovered.

The Propaganda for Reform

IN THIS DEPARTMENT APPEAR REPORTS OF THE JOURNAL'S BUREAU OF INVESTIGATION, OF THE COUNCIL ON PHARMACY AND CHEMISTRY AND OF THE ASSOCIATION LABORATORY, TOGETHER WITH OTHER MATTER TENDING TO AID INTELLIGENT PRESCRIBING AND TO OPPOSE FRAUD ON THE PUBLIC AND ON THE PROFESSION

ANTI-TUBERCULOUS LYMPH COMPOUND (SWEENY) AND ANTI-SYPHILITIC COMPOUND (SWEENY)

Reports of the Council on Pharmacy and Chemistry

The Council has authorized publication of the reports which appear below, declaring Anti-Tuberculous Lymph Compound (Sweeny) and Anti-Syphilitic Compound (Sweeny) ineligible for New and Nonofficial Remedies.

W. A. PUCKNER, Secretary.

Anti-Tuberculous Lymph Compound (Sweeny)

"Anti-Tuberculous Lymph Compound (Sweeny)" is put out by the National Laboratories of Pittsburgh, Dr. Gilliford B. Sweeny, "Medical Director." Sweeny has claimed at different times that he became interested in the subject of von Behring's efforts to immunize cattle to tuberculosis at a time when he was an assistant in von Behring's laboratory. He claims to have conceived the idea while there of transferring bovine immunity to tuberculosis to the human subject and later to have evolved his "treatment" at the Pasteur Institute in Paris.

Just how Anti-Tuberculous Lymph Compound is made today is not stated—at least so far as one is able to learn from recent advertising. Some years ago Sweeny declared that his "Anti-Tubercular Lymph" (as it was then called) was derived from a bullock which had been immunized to tuberculosis. Then:

"The immunized animal having been slaughtered, the contents of the lymph reservoirs are carefully collected and an aqueous extract is made from the grey cerebral substance, spinal cord and the lymph glands. It is then filtered under high pressure and de-albuminized by succussion. To this, the lymph, together with a definite proportion (50 per cent.), of the naturally phosphorized brain fats is added, with a small amount of chloride of gold (about 1-60 gr. to the dose), the latter as a preservative."

It is a fair assumption that however the preparation may have been made originally, it is not now made in such a manner as to bring it under the federal laws governing the preparation of serums and similar preparations. The claims made for Anti-Tuberculous Lymph Compound are of the usual uncritical and unscientific type. Mainly, of course, they are of the testimonial class. The physician is told that the preparation has been carefully tested by men whose judgment is worthy of consideration; that the verdict has been altogether favorable to the "Compound." Thus:

". . . the remedy was submitted to a selected body of skilled physicians, recognized for their skill and care in making therapeutic observations. These men represented widely varying conditions, climatic and otherwise. Those who said ten years ago that Anti-Tuberculous Lymph Compound has a specific immunizing influence upon the tuberculosis patient, find the same to be true today."

Careful reading of the matter just quoted will reveal its ambiguity and inherent lack of frankness. The inference conveyed is that the "selected body of skilled physicians" have unqualifiedly endorsed Anti-Tuberculous Lymph Compound (Sweeny)—but it does not say so!

It is the history of all such preparations, introduced to the medical profession with the usual blare of trumpets, that a certain number of favorable testimonials can be obtained. It is also the history of such products that one has but to wait a few years and the physicians who had written most enthusiastically regarding the preparation—in the first flush of their optimism following its use and the perusal of the manufacturers' literature—will acknowledge that they were mistaken in their original estimate and are no longer using the agent. In this connection an investigation of some of the old testimonials for Anti-Tuberculous Lymph Compound by the Propaganda department of THE JOURNAL is instructive.

In a somewhat elaborate booklet published in 1907 by Sweeny, an Indiana physician was said to have reported favorable results following the administration of the "lymph." A letter written to this physician in October, 1919, asking for his present opinion on the product brought this reply, in part:

". . . it being twelve years since using the serum and no reference or repeated orders since should surely suffice as evidence of my lack of faith in the serum. . . ."

An Illinois physician was reported in the same booklet to have described a case of a young man with an active tuberculosis, who was given injections of the "lymph" in February, 1907. The patient, it was claimed, showed immediate improvement and the Sweeny booklet (published in August, 1907) stated that "improvement in this case continued and terminated in complete recovery." A letter written to the physician in October, 1919, brought out the fact that the young man in question, after receiving "Anti-Tuberculous Lymph Compound" and *other treatment* was removed "on a stretcher" "to New Mexico, where he remained for three or four years" and recovered. The doctor adds:

"I do not think that the Anti-Tuberculous Lymph had anything to do with the man's recovery, although I realize the difficulty of definitely analyzing just what did effect the cure. I did since that time use that preparation in several other cases without beneficial results so that I gave it up a good many years ago adding it to that large heap of pharmaceutical material 'weighed and found wanting.'"

A physician in Texas also reported in the 1907 booklet as having had very satisfactory results with the Anti-Tuberculous Lymph Compound in one case of pulmonary tuberculosis was written to in October, 1919. He replied:

"I will state that subsequent use of this compound did not bear out the apparent good results from its use in the first case or two."

In a "Bulletin" issued by the Sweeny concern in 1912, a Pennsylvania physician was quoted as having treated three cases with Anti-Tuberculous Lymph Compound with resultant cures. This physician was written to in October, 1919, and he replied:

"I have no knowledge of the use of my name by any Pittsburgh concern and know nothing of a lymph of the name of Sweeny; neither do I recollect ever curing three cases of tuberculosis with any lymph."

The same "Bulletin" quoted the alleged statement by a Delaware physician to the effect that he believed Anti-Tuberculous Lymph Compound to be the most successful treatment of tuberculosis extant. This in 1912. To an inquiry sent in October, 1919, this physician briefly replied:

"Am not using it now."

The result of the Propaganda department's questionnaire was what might have been expected. Every physician who answered the inquiry regarding his previous and present opinions of Anti-Tuberculous Lymph Compound (Sweeny) declared, in effect, that he had long since ceased to have faith in its value or efficacy.

According to claims made in the Sweeny literature, "Anti-Tuberculous Lymph Compound exercises its immunizing power through a specific action upon the blood cells." The statement that "it destroys the tuberculosis germ when this is present in the system of the patient" is untrue. The facts are, no serum or lymph has thus far been proved to have any value in the treatment of tuberculosis even when fortified by "a small proportion of chloride of gold and soda" as one circular tells us the "lymph" is. In spite of years of research by competent investigators, we are still without any aid in the form of a serum in the treatment of tuberculosis.

Anti-Tuberculous Lymph Compound (Sweeny) is one of those preparations that need no elaborate laboratory tests, nor even exact therapeutic research, to convince any clear-thinking person that it is patently and obviously worthless. One would hesitate before asking any reputable clinician to test a preparation of this sort. It is a constant source of surprise that some physicians allow themselves to be persuaded by advertising literature that is obviously uncritical and unscientific, to use preparations which have no more reasonable foundation than this one.

The Council declares Anti-Tuberculous Lymph Compound (Sweeny) not acceptable for New and Nonofficial Remedies.

Anti-Syphilitic Compound (Sweeny)

This preparation also is made by or under the direction of the same Dr. Gilliford B. Sweeny whose researches (?) led to the production and evolution of the Anti-Tuberculous Lymph Compound (Sweeny). According to the data at hand, this preparation is made by suspending benzoate of mercury in lymph from the bullock. Case reports are given of alleged cures of syphilis after two months of treatment; indeed, the circular exploiting the agent makes the statement that it is seldom necessary to continue the treatment beyond two months, which, if one chose to be credulous, would indicate extraordinary power for the mercury.

Mercury of course has a proper place in the treatment of syphilis, but that any physician could be induced to place his trust in this preparation is almost unthinkable though testimonials—which the "National Laboratories" claim to have received from physicians—are published. They all stamp the writers as not only gullible but also incompetent. The tenor of the claims is on a par with those made for the Anti-Tuberculous Lymph Compound; they do not justify the time required for detailed consideration.

The Council declares Anti-Syphilitic Lymph Compound (Sweeny) not acceptable for N. N. R.

Correspondence

FACTS LEADING TO PUBLICATION OF "ARMY FROWNS AND SMILES"

To the Editor:—There has come to my attention the following advertisement of a book published by Dr. D. E. Compere, formerly a first lieutenant in the Medical Corps:

"A 'RED HOT' BOOK JUST OFF THE PRESS

ARMY FROWNS and SMILES
By Dr. D. E. Compere
(First Lieut. M. C. U. S. Army)

Pulling the Cover OFF OFFICIAL ROTTENNESS

Flavored by the Soldier's Courage
Shield, A SMILE

DEDICATED

To the memory of an ORPHAN, Private Russell A. Wood, No. 673d Aero Supply Squadron, A. C. S. D. & C. C., who died October 11, 1918, at Camp Morrison, Va., 'WITHOUT PROPER MEDICAL ATTENTION.'

"Also to the memory of each noble HERO who made the supreme sacrifice and gave his life for our country, but especially to all those who died the result of hard boiled, cold blooded, callous neglect.

"'I served in the Medical Corps nearly twelve months and learned of ROTTENNESS which is a disgrace to any civilized nation, and America will not approve and WHITE-WASH. Therefore, it is now my DUTY to tell the PUBLIC these FACTS, and if they desire conditions to continue as bad or even worse, such is their privilege, BUT I HAVE DONE MY BIT.'"

"'I had rather be branded as a belly-acher than as a shut-mouth. To know that such rottenness exists and keep quiet is a thousand times worse than to be misunderstood.'"

"'THIS WORLD WAR WAS WON BY FREE MEN FOR THE FREEDOM OF MANKIND; YET, JUSTICE CANNOT BE SECURED THROUGH THE CHIEF OFFICIALS OF THE UNITED STATES OF AMERICA.'"

"'Convenient RULES, protecting a wonderful system of 'SUPPOSED TO BE' Justice in FREE America, when the TAXPAYERS, THE VOTERS, 'THE BOSS' is not supposed to know or be given copies of, what is being done by some of OUR GOVERNMENT OFFICIALS in the City of Washington, and even though MILITARY LAW is VIOLATED by DEPARTMENT CHIEFS, *'THE BOSS'* dare not criticise. 'GREAT STUFF'."

PRICE $2.00

In view of the fact that many persons who have lost relatives and friends in the service will be deeply troubled by the statements made by Dr. Compere, and, further, because of the serious reflections on the War Department and on the fidelity and integrity of physicians formerly in the service, it is believed that the true facts in regard to the matters referred to by Dr. Compere should be given wide publicity, and I therefore request that this letter be published in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

The matters to which Dr. Compere refers in his book had their origin in the following letter addressed by him to the Surgeon General:

"Camp Hospital, Camp Alfred Vail,
"Signal Branch, N. J., October 23, 1918.

"From: 1st Lt. Dolphus E. Compere, M. C.
To: The Surgeon General, U. S. Army (thru Official Channels).
Subject: Major Butler, Camp Surgeon, Camp Morrison, Va.

"1. At 8:00 P. M. October 8th I received the following telegram from my wife, 'Gano (my brother) seriously ill, pneumonia, mother says, if possible go to him.' At 8:30 P. M. Oct. 8th I wired the Camp Surgeon, Camp Morrison, Va. 'Please wire exact condition of my brother, Cpl. Gano Compere,' signed it Lt. D. E. Compere, Camp Surgeon, Camp Alfred Vail, N. J. After waiting fifteen hours with no reply and upon the suggestion of Colonel Helms, Commanding Officer, Camp Alfred Vail, N. J., at twelve o'clock Oct. 9th I wired the same message again except added 'report delivery.' After no reply at 8:00 P. M. Oct. 9th I wired mother 'Where and how is Gano. Have wired twice, no reply.' At 9:50 P. M. Oct. 9th my mother answers, 'catch first train, Camp Morrison, Va. Gano seriously ill. Heard nothing.' At 7:00 A. M. Oct. 10th the Western Union reports 'Your message to Camp Surgeon, delivered 2:00 P. M. Oct. 9th and at the same time delivered this message 'Condition better today,' signed Major Butler, Camp Surgeon, Camp Morrison, Va. dated 9:42 P. M. Oct. 9th. I find Major Butler did receive both of my messages. He completely ignored the first and waited from 2 o'clock until 9:42 P. M. to answer the second, so after waiting over 36 hours and requesting his exact condition, then to receive such a vague indefinite reply, upon the consent of Colonel Helms I hurried to Camp Morrison. Upon arriving I first met Capt. Steffen who accompanied me to Ward 13 where I found my brother. Capt. Steffen looked at his clinical record then placed it back with the others without showing it to me, then I asked if I might see it. He said 'Yes, of course,' also that my brother was transferred to the Camp Hospital from one of the auxiliary Company Hospitals.' The clinical record shows that he was admitted Oct. 6th at 5 P. M. and his first temperature 100.8 was recorded at 7 A. M. Oct. 7th and has not been 100 since that date. My brother said he came direct from his barracks to this Hospital October 6th at 1 P. M. and Lt. J. D. Nelson took his temperature soon after his arrival. He asked how much fever he had and Lt. Nelson replied 104. I could not prevent hearing and seeing dangerously ill soldiers around my brother, but one especially attracting my attention was unconscious and breathing so fast and hard that as I sat on my brothers cot, I held my watch and found his respiration to be 50 per minute. About 12 o'clock the ward orderly came around giving 1/30 gr. strychnine tablets and Dovers powders and finding he could not prize this poor fellows mouth open with a spoon he remarked 'Oh well, when you can't get their mouths open, there's nothing else to do.' I saw the nurse sitting in the ward record room writing and filling in papers, also I talked with Lt. Nelson, the ward surgeon and hereby testify that absolutely nothing was done for this dying soldier from 8:30 A. M. until after 3 P. M. also my brother said 'All others are treated the same and this soldier Pvt. Woods had been expected to die for three days.' I went to the office and talked with Major Butler about my telegrams and found him to be very insulting and disrespectful. He said, 'Well whats your grouch.' I said promptly 'simply if you had wired me the exact condition of my brother I would not have left my work.' He said 'Oh is that all.' Then I said, 'No and I would like to know if all your cases are allowed to die without attention as I know one man to be doing.' He asked me who sent me down to spy into his business. I replied I was there upon official permission of Colonel Helms my Commanding Officer to visit a sick brother. He said 'if you have any kicks to make about me send them to Washington through official channels.' I assured him this would be done.

(Sgd.) "Dolphus E. Compere,
1st Lt. M. C. Surgeon."

This letter was referred to the commanding officer at Camp Morrison, who, under date of Oct. 18, 1918, stated that in view of the sudden appearance of the influenza epidemic and the widespread fatalities resulting from it, he believed that the Surgeon, Major Benjamin J. Butler, Medical Corps, was entitled to commendation rather than condemnation for the creditable manner in which he handled the emergency. Approximately 50 per cent. of the camp personnel became inmates of the hospital within the period of a few days, and investigation demonstrated that the percentage of fatalities (approximately 3 per cent. of the total number of cases) was lower than in the majority of other camps in the country. He further stated that the accommodations at this camp were inadequate to accommodate such a number of sick demanding treatment within a few days, and that it was necessary to improvise hospital space. To his personal

knowledge, the physicians, nurses and medical attendants left their posts while the epidemic was at its height only long enough to secure essential rest and it was necessary to detail nearly 200 men from the Air Service to assist the regular hospital personnel.

In view of the seriousness of the charges made by Lieutenant Compere, the matter was investigated by the representative of the Inspector General's Department of the Army located at the Port of Embarkation, Newport News, Va. The inspector was Col. J. T. Nance, a retired officer of long experience and high attainments. The investigation covered the period from Oct. 28, 1918, to Nov. 12, 1918, and was thorough. Colonel Nance's conclusions and recommendations are as follows:

"(a) That Lieutenant Compere's allegation that his first telegram was ignored is not sustained by the evidence.

"(b) That his allegation that reply to the telegram was delayed is sustained by the evidence, but that a large part of this delay was incident to poor telegraphic service available and that the remainder of the delay was incident to conditions existing during the epidemic of influenza and pneumonia.

"(c) That his allegation that the reply was vague and indefinite when he had requested information as to the exact condition of his brother is sustained by the evidence.

"(d) That his complaint that Private Wood was being allowed to die without attention, 'that absolutely nothing was done for this dying soldier from 8:30 A. M. until after 3:00 P. M.' is not sustained by the evidence.

"(e) That the complaint that Major Butler was very insulting and disrespectful toward First Lieutenant D. E. Compere is sustained, in a measure, by the evidence. It is remarked in this connection that there were extenuating circumstances; that Major Butler had many cares and responsibilities, and that Lieutenant Compere's presumption and manner were irritating.

RECOMMENDATIONS:

"(a) That Major Benjamin J. Butler, M. C., be instructed to comply in future with Army Regulations No. 824.[1]

"(b) That no other action be taken in his case as far as Major Butler is concerned.

"(c) That disciplinary action be taken in the case of First Lieutenant Dolphus E. Compere, M. C., for making the false statement contained in his complaint that 'absolutely nothing was done for this dying soldier from 8:30 A. M. until after 3:00 P. M.'"

The recommendations of Colonel Nance were concurred in by the Commanding General of the Port of Embarkation, Brig. Gen. H. B. Ferguson, by the Surgeon General, and by the Inspector General, but in view of the fact that Lieutenant Compere had been honorably discharged from the service on Dec. 14, 1918, prior to the receipt of Colonel Nance's report in the office of the Inspector General, it was not practicable to take any disciplinary action in this case, and the Inspector General recommended that notation of the facts disclosed by the investigation be made on the efficiency record of Lieutenant Compere and that no further action be taken. This notation on the efficiency record was made.

About December 15, after his discharge from the service, Dr. Compere appeared in my office and behaved in a very objectionable and discourteous manner. Since that date several communications from him have been received by various officials of the War Department, in which he has made many allegations, more or less exaggerated and incorrect, particularly his frequent assertion that the investigation at Camp Morrison was in the nature of a "white-wash" and was made by an inspector of the Medical Department of the Army, whereas this inspection was made by an officer of the Inspector General's Department, which is the final authority in the military service designated by law to investigate facts in regard to complaints and misconduct.

The foregoing statements are made from no desire to enter into further controversy in regard to the matters in question, but merely to place before the Fellows and members of the American Medical Association a clear and unbiased statement of the facts leading up to the publication of "Frowns and Smiles."

M. W. IRELAND, M.D., Washington, D. C.
Surgeon General, U. S. Army.

1. Paragraph 824, Army Regulations, has to do with the rules which govern the furnishing of information, based on military records, which might be used in establishing a claim against the government. This paragraph further provides that information concerning sick and wounded officers and enlisted men will be freely conveyed to allay the anxiety of friends.

CONDITIONS IN VIENNA

To the Editor:—You may be interested in the enclosed excerpt from a letter written me by Lieutenant-Colonel Leach, who has been long connected with Belgian relief, the American army, and the American relief administration.

ROY LYMAN WILBUR, Stanford University, Calif.
President, Leland Stanford Junior University.

I have just been making a survey of conditions among the medical profession here in Vienna with Dr. von Pirquet. There are about 4,500 medical men, and at least 90 per cent. of them are working on half rations, and many are actually on the point of starvation. I had a talk with Prof. Eiselsberg yesterday, who is the leading surgeon of Vienna. In the last year he has lost 20 pounds in weight through insufficient nourishment. He has plenty of Austrian money, but cannot buy from the farmers as they will accept nothing but foreign money of recognized value or will barter for wearing apparel. I was told today in a Vienna shoe store of a peasant who came in and was advised not to spend his money for expensive shoes when he could wear sandals. These same shoes cost 5 kronen before the war. He replied that it really didn't make much difference, as his father and grandfather had always figured a pair of ducks equivalent to a pair of shoes. That simply raised the market value of the ducks. To get eggs, butter or milk in the country, which is the only place they are obtainable at the present, it is necessary to go armed with shoes, silk stockings, underwear, etc. When the surplus of clothes is exhausted there is nothing in sight but starvation.

I have suggested to Professor Eiselsberg that, as president of the Vienna Medical Association, he could make a general appeal to the medical profession in the United States on behalf of our colleagues here, this appeal to be made to our New York office and through their propaganda department, a proper appeal sent to each state medical association with Professor Eiselsberg's description of conditions as they existed here among the profession. Contributions could be made in the form of the Hoover food drafts, deliveries to be made to a committee headed by Professor Eiselsberg in Vienna, who could supervise the distribution of the packages to the most urgent cases.

At present the class which seems to be suffering most from undernourishment is the aged, the death rate among this class having risen tremendously. The children, of course, are being cared for to a certain extent through our European children's fund operations; but there is no like organization in operation for the benefit of the aged.

"BLOOD TRANSFUSION APPARATUS"

To the Editor:—In regard to the blood transfusion apparatus as described by Dr. L. L. Stanley in THE JOURNAL, March 6, 1920, p. 671, this modification may be made: namely, the stopcock may be substituted for the ball valve arrangement as described.

A glass stopcock with a good sized bore may be substituted for each one of the ball valves, thus shutting off each of the two needles, at will, from the syringe. When the donor's blood is to be drawn, the stopcock leading to his needle is opened, while the one leading to the recipient's needle is closed. The syringe is filled by drawing out the plunger. The donor's stopcock is now closed and the recipient's stopcock opened, and the blood is immediately forced into the recipient's vein by pushing in the piston of the syringe. The advantages of this modification are:

1. It is a relatively simple instrument to make at home.

2. The instrument need not be held in any particular position, since gravity plays no part here.

3. It diminishes the clotting of the blood by eliminating the ball arrangement, which acts as a freely movable foreign body in the incoming and outgoing stream of blood.

4. In the ball valve plan if, because of clotting, the recipient's valve should fail to close properly, the blood filling the syringe will come from his vein as well as from his donor's, a situation which can readily be prevented by the use of the stopcock, and so assure the operator that the blood his patient is receiving is not partly his own.

BARNETT GREENHOUSE, New Haven, Conn.

Medical Education, Registration and Hospital Service

COMING EXAMINATIONS

ARIZONA: Phoenix, April 6-7. Sec., Dr. Ancil Martin, 207 Goodrich Bldg., Phoenix.

ARKANSAS: Little Rock, May 11-12. Sec. Regular Bd., Dr. I. J. Stout, Brinkley. Sec. Eclectic Bd., Dr. C. E. Laws, Fort Smith.

COLORADO: Denver, April 6. Sec., Dr. David A. Strickler, 612 Empire Bldg., Denver.

DISTRICT OF COLUMBIA: Washington, April 13-15. Sec., Dr. Edgar P. Copeland, the Rockingham, Washington.

HAWAII: Honolulu, May 10-14. Sec., Dr. R. W. Benz, 1141 Alakea St., Honolulu.

IDAHO: Boise, April 6, Commissioner, Hon. Robert A. Jones, Boise.

LOUISIANA: New Orleans, May 4. Sec., Homeo. Bd., Dr. F. H. Hardenstein, 702 Maehesa Bldg., New Orleans.

MINNESOTA: Minneapolis, April 6-8. Sec., Dr. Thos. McDavitt, Lowry Bldg., St. Paul.

MONTANA: Helena, April 6. Sec., Dr. S. A. Cooney, Power Bldg., Helena.

NEVADA: Carson City, May 3. Sec., Dr. Simeon L. Lee, Carson City.

NEW MEXICO: Santa Fe, April 12-13. Sec., Dr. R. E. McBride, Las Cruces.

NEW YORK: New York, Albany, Syracuse, Buffalo, May 18-21. Assistant, professional examinations, Mr. Herbert J. Hamilton, Education Bldg., Albany.

OKLAHOMA: Oklahoma City, April 13-14. Sec., Dr. J. M. Byrum, Shawnee.

WEST VIRGINIA: Charleston, April 13. Sec., Dr. S. L. Jepson, Masonic Bldg., Charleston.

INDIVIDUALISM IN MEDICAL EDUCATION

ALBERT C. EYCLESHYMER, PH.D., M.D.
Professor of Anatomy, Head of Department and Dean, University of Illinois College of Medicine
CHICAGO

Herbert Spencer well says: "There cannot fail to be a relationship between the successive systems of education and the successive social states with which they have coexisted." During the past half century our natural resources and varied industries were attracting the master minds of our country. The commercial spirit had extended into practically all lines of endeavor. It is therefore not surprising that the medical schools became strongly tinctured with commercialism. In describing the medical schools of a half century ago, Flexner says that they were essentially private ventures, money making in spirit and object. They arose in small towns almost in the heart of the wilderness. Wherever or whenever the roster of untitled practitioners rose above half a dozen, a medical school was likely at any moment to be precipitated. Income was simply divided among the lecturers, who reaped a rich harvest besides the consultations which the loyalty of their former students threw into their hands. "Chairs" were variable in value, their prices varying with what was termed their "reflex" value. It might be added that the chair of principles and practice of medicine would bring two or three thousand cash; that of natural history, not a cent. Appointments rested on financial rather than educational qualifications. The professor was a busy practitioner who worked day and night. Although often exhausted, he must be ready to take his hour at the medical college. His personal experiences furnished the storehouse from which he extracted his lecture; and these experiences were beyond controversy. The students were not well enough trained to be thrown to any degree on their own resources. The country demanded for the most part but one type of physician and that type was the all round practitioner. He was obliged to know something of medicine, surgery and obstetrics, together with the specialties, including dentistry and pharmacy, and in addition to these he was expected to show proficiency as a veterinarian. In short, the medical school consisted of a group of teachers with no time to think, and a group of students who could not think, trying to satisfy a public demand for the all round physician.

The conditions today are quite different. The students are better trained, and as a group they no longer desire to be all round practitioners. They realize that the field of medicine, like other fields of endeavor, has expanded so enormously that specialization alone leads to eminence and signal success. The public does not demand the all round practitioner as it did a half century ago. The demand has decreased almost in direct proportion to the improved means of intercommunication and transportation. At present the country practitioner restricts his work largely to the more common diseases and first aids. The more obscure cases he refers to specialists who have hospital facilities at their command. Hospitals are being built over the country, and with them comes the organization of the hospital staff which, in turn, forms the basis of the group clinic. Instead of the general practitioner making a complete diagnosis, there is now a group of collaborating clinicians, each of whom is an expert in his particular field. The rapid development of the group clinic is creating a demand that must be met by the medical schools.

The conditions of half a century ago were met by the fixed curriculum, but this principle has been projected into the medical schools of today. Our national organizations dealing with medical education have recognized and emphasized the need of individualism, but have not adopted measures that materially assist the medical schools in developing the individual. The fixed curriculum is so deeply rooted, so widely spread and so thoroughly fostered by educational institutions that standardizing agencies like state examining boards are rapidly adopting or creating such curriculums as the basis for medical licensure. The day is not far distant when the schools must either incorporate in their curriculums the particular requirements of each state examining board or find that their graduates are not qualified to practice in these states. To incorporate these requirements means not only the further specification of subjects and allotted time, but also a material expansion of the curriculum. The schools are thus approaching an impasse of their own creation.

In building a medical curriculum, we should ever be mindful of the fact that no two students are alike. In the high school the student feels his way through a large range of group electives, and often before entering college he has decided that he will major in agriculture, engineering, law, theology or medicine. In his college work, electives have enabled him to accentuate his choice or perchance to find that his predilection was wrong. In both high school and college the student may have inclined toward subjects involving manual training and thereby have acquired keenness of touch and dexterity, or toward music, cultivating the sense of hearing. He may have elected biologic sciences, accentuating observation. He may have turned toward mathematics, physics and chemistry, emphasizing precision in deduction and experimentation. He may have laid special stress on languages or history, thus acquiring an excellent memory, or perchance on philosophy, thus developing the power of abstract thought.

Those of us who come in contact with beginners in the study of medicine are impressed by their differences in energy, training and ability. One student is always on time, another is always behind time; one works quickly, another slowly; one is deft, another clumsy; one student retains best what he sees—his memory is visual; another retains best what he hears—his memory is auditory; still another remembers best what he reads—his memory depends on word associations. One mind stores up isolated impressions and facts—it is analytic; another arranges impressions and facts in groups—it is synthetic. Will the student who is slow and clumsy ever make as efficient a surgeon as the one who is quick and deft? Will the one whose memory is auditory, or depends on word association, ever succeed in surgery as well as

another who is able to visualize the positions and relations of organs in the body? Will the student who has an untrained ear ever make as efficient an internist as the one whose keenness in sound perception and discrimination enables him to differentiate between normal and abnormal sounds in the lung or heart? Is the one with an analytic mind as capable of interpreting a syndrome as another whose mind is synthetic? It is beyond question that the men who enter the medical school at the age of 22 or 23 years are quite unlike in their mental equipment; but in entering the medical school with a fixed curriculum they are beginning a four-year program that requires all students to do the same kind and the same amount of work at the same time and in the same way. It follows that the more uniform the special senses and intellectual processes, the more efficient becomes such a curriculum. To reach its maximal efficiency we must revamp and equalize the special senses and intellectual processes—but is this education?

What we should do is to determine the special assets of each student at the time he enters the medical school, and ever keep in mind his adaptability for certain kinds of work. As soon as possible we should help him to place his assets where they will yield the greatest returns. Experience teaches that most students, at the end of the second or third year of the medical course, have decided whether they wish to lay equal emphasis on medicine, surgery or obstetrics, fitting themselves for general practice, or to give special emphasis to one, fitting themselves for a special field. If, in the judgment of the faculty, the student's selection is wise, he should be permitted to follow his choice. In the fourth year the student should be allowed a further latitude which will permit him to accentuate the all round training in medicine, surgery or obstetrics, or to lay further emphasis on one of these. In the intern year, he may further accentuate his choice by rounding himself out for general practice or by adding to his special training.

While the curriculum of each school is extremely rigid, a comparative study of curriculums shows wide variations in the different schools. One covers a total of 4,500 hours, another 3,500; anatomy is given 750 hours in one school, in another, 450; physiology 300 in one school, in another, 150; pathology 500 in one, in another, 200; medicine 600 in one, in another, 300; surgery 600 in one, in another, 400. The amount of time given to the various subjects varies with the point of view and enthusiasm of the teacher, and with the equipment and material available for study. One school is favorably situated for the study of tropical diseases; another is able to utilize a great tuberculosis sanatorium; another, a great psychopathic institute. It thus comes about that the curriculums are extremely variable, not only in the total number of hours but also in the number of hours given to the various subjects. The recognition of variability in different institutions concedes the principle of variability within each institution.

In each department of the medical school an active fermentation is going on, with the splitting off of new segments. Just as physiology and pathology split off from anatomy, so biochemistry is outgrowing physiology; bacteriology is asserting its independence of pathology; pediatrics and neurology, otolaryngology and ophthalmology are attaining independence from general medicine and surgery. Again, there is going on a continual importation of subjects from the outlying fields of investigation. Immunity, roentgenology and parasitology have been brought into the curriculum from these outlying fields. The school that is the most actively engaged in the exploration and the investigation of borderland subjects finds the greatest difficulty in holding to a fixed curriculum.

Some twenty years ago, in a remarkable and prophetic article on "Liberty in Medical Education," the late Professor Mall[1] wrote:

> The great complaint of the good student is coercion. Reared in a free atmosphere, accustomed to great liberty during his college years, he enters the medical school with intellectual slavery staring him in the face. The faculty trust is so powerful that if the student asserts his citizenship and remains away from a stupid course or one useless to himself he may be deprived of his degree. Long after he graduates he awakens to see that it is all a sham, and this fact adds another disgrace to our medical schools. We all know that students are very unequal in ability, as well as capacity for work, and why should they all pursue the same course of study? We cast out the weak and disgrace them, the mediocre continue along the trodden path, but the strong are retarded. We do wrong when we disgrace the weak, and it is our duty to develop the strong. It is poor logic and begging the question to assert that the German student develops better under the banner of liberty than the American would. It is not difficult to obtain overwhelming authority in favor of liberty in higher education; it is only degrading to our profession in America to assert that our students are not worthy of it. As long as this continues, medical education in America, in spite of the advance it has made during the last twenty-five years, will remain at its present low level in the eyes of the educators of the world.

The curriculum in the accompanying tabulation, as given and advocated by Professor Mall, might well serve as a basis on which the medical schools of today could build elastic curriculums.

MEDICAL CURRICULUM *

	Obligatory	Elective
PRECLINICAL SUBJECTS		
Anatomy	6 units	15
Physiology	2 units	4
Physiologic chemistry and pharmacology	3 units	6
Pathology and bacteriology	4 units	10
Hygiene and bacteriology		10
Elective	9 or more	
	24 = two years' work	
CLINICAL SUBJECTS		
Medicine	6 units	15
Surgery	5 units	15
Obstetrics	3 units	5
Gynecology		5
Dermatology		4
Pediatrics		4
Nervous diseases		5
Genito-urinary diseases		4
Laryngology		4
Ophthalmology		5
Medical jurisprudence		2
Psychiatry		4
Elective	10 or more	
	24 = two years' work	

* The curriculum extends over a period of four years and comprises about 3,000 hours. The unit is the equivalent of from 60 to 65 clock hours.

Professor Mall said:

> In the above table I have arranged the units in two columns, reducing the obligatory courses to their minimum without excluding any of the seven branches. Further cutting down might be an improvement, but I will not raise that question at present. As it stands in the table, 60 per cent. of the entire four years is obligatory, and the remaining 40 per cent. of the work is to be selected from a large group of elective courses. As they stand in the second column it would require an average student eight or ten years to take them all, and the two columns together represent work which our best schools can easily give at the present time. Much of our whole trouble in teaching is that we are trying to put ten years' work into four. . . . Each student might try a different combination while working out his own salvation and developing his individuality. The weak student would either drop out or go slower, the average would follow the trodden path, the good one would develop himself.

I have quoted Professor Mall in particular because he has demonstrated through his students the soundness of his views on academic freedom. There is only one way to develop strong men, and that is by helping them to become independent thinkers. Electives are the stepping stones to independent thought, and independent thought is the threshold of knowledge. We cannot keep the medical students marching in the trodden paths of their predecessors until weary and heart-sick they complete the march, only to find that they have also acquired mental debility on the way. We must tear down the restraining walls, and encourage them to forsake the trodden paths and to explore the unknown fields. We must help them to realize that the laws governing health constitute a limitless expanse for exploration, and that on our knowledge of these laws rests the physical efficiency of mankind.

1. Mall, F. P.: Philadelphia M. J. 3, 1899.

Book Notices

MANUAL OF TROPICAL MEDICINE. By Aldo Castellani, C.M.G., M.D., M.R.C.P., Lecturer at the London School of Tropical Medicine, and Albert J. Chalmers, M.D., F.R.C.S., D.P.H. Third edition. Cloth. Price, $12. Pp. 2436, with illustrations. New York: William Wood and Company, 1920.

The first edition of this book, published in 1910, contained 1,242 pages. This edition contains 2,436. This may well be regarded as an index of the growth of our knowledge of tropical diseases in the last decade. In contents, the book is exhaustive; in fact, well nigh encyclopedic. Its three main divisions are the introduction, Part II on causation of tropical diseases and Part III on specific diseases of the tropics. The introduction includes chapters on the history of tropical medicine, tropical races, tropical climatology, tropical foods, tropical diseases and fitness for tropical life. The section on causation discusses, under physical causes, temperature and humidity, pressure and radiation, and traumatism. Under chemical causes are considered animal and vegetable poisons, including those used in hunting, fishing and warfare, as well as poisonous foods. This section also contains three exhaustive and interesting chapters on venomous animals, including spiders, scorpions, venomous fish, and the numerous snakes of the tropics. The section devoted to tropical parasites and their rôle in the production and transmission of disease is necessarily large, consisting of nearly 800 pages.

Parasites and carriers are discussed in zoological order, as protozoa, worms, leeches, ticks, and mites, insects, animal carriers and vegetable parasites. The third part, comprising over half of the book, treats of specific diseases of the tropics, dividing them into fevers, general diseases and systemic diseases. Under fevers are discussed those carried by mosquitoes, namely, the malarias, the tropical hemoglobinurias, yellow fever, dengue and allied fevers. Diseases carried by the tsetse fly and similar insects are the trypanosomiases and the kala-azars. Those carried by lice and ticks are the relapsing fever, typhus fever, spotted fever and tsutsugamushi fever. It is difficult to understand why Rocky Mountain fever is discussed in this connection, since the authors state that it is found only in the mountainous regions of the United States. The other fevers are unclassified or are listed as probably due to bacterial infection. One of the most interesting chapters is that on the differential diagnosis of a tropical fever in which the diagnostic symptoms are tabulated for easy reference. General diseases are divided into those with an animal causation, including frambesia, verruca, the filariases, etc.; those with a vegetable causation, as leprosy and histoplasmosis; diseases due to chemical causes, including beriberi and epidemic dropsy; and general diseases the cause of which is unknown, under which the authors classify pellagra. The last section takes up in detail the various systemic diseases peculiar to the tropics.

It is interesting to note that in spite of the attitude regarding alcohol adopted by the English, the authors take every occasion to emphasize the danger of the use of alcohol and the inadvisability of any one addicted to its use, even in moderate quantities, undertaking work in tropical countries. Even the therapeutic value of alcohol is minimized, and in the chapter on venomous reptiles a severe blow is dealt at the time honored superstition of the value of alcohol in the treatment of snake bites. "Brandy and whisky have been repeatedly vaunted but they are useless." Apparently the authors have not had access to contemporary American literature. In the references to articles on food and nutrition, the latest reference to an American article is 1911, and none is made to the work of McCollum, Osborn and Mendel in the last five years. The book is copiously illustrated, and one of its most valuable features is the list of references following each chapter. Under the section on the state and tropical diseases is a list of eighty-seven special journals on this subject and an extended list of special works on tropical medicine, its history and development. In addition to its completeness, the fact that the third edition has been revised since the war and that the authors have had twenty years' experience in the tropics will justify its acceptance as one of the leading English authorities on tropical diseases.

Social Medicine and Medical Economics

THE VIRGIN ISLANDS OF THE UNITED STATES

B. V. MCCLANAHAN, M.D.
GALESBURG, ILL.

Exactly one week prior to our declaration of war on Germany, the United States took over certain islands of unquestioned value in the neighborhood of Porto Rico. From a naval standpoint these islands possess marked strategic features, the most important of which probably is the landlocked harbor of Charlotte Amalie, St. Thomas. From a public health and medical point of view these most recently acquired possessions also present some very interesting phases.

The Virgin Islands of the United States (formerly the Danish West Indies) consist of a group of some fifty small islands, near the juncture between the Atlantic Ocean and the Carribean Sea, lying from 30 to 80 miles east and south of Porto Rico. They were acquired from Denmark, March 31, 1917. From a period of a few years prior to this date the former government had been allowing the islands to decline gradually, the United States having tried twice before to gain control. Since their acquisition they have been under the control of the Navy Department, and it appears proper that they should so continue, as their small size necessitates their dependence on naval life and the sea for their welfare.

Commander (now Captain) C. S. Butler, Medical Corps, U. S. Navy, and I were the first American medical officers to reach the islands following their transfer. Arriving at Charlotte Amalie, the principal harbor of the island of St. Thomas, April 21, 1917, Dr. Butler remained for duty on St. Thomas, and I was detailed for both military and civilian duty to Christiansted, St. Croix.

The gradual decline under the former government was decidedly accelerated by a destructive hurricane in October, 1916, in which Christiansted suffered severely. Its hospital buildings, which were situated on a hill, were almost completely demolished and rendered wholly uninhabitable. Instruments, beds, linen and much of the original equipment were strewn over a wide area and rain-soaked beyond hope of further use.

The building occupied by the hospital on my arrival was an old chapel, of which the rostrum and mahogany railings still remained. A table near the pulpit served as office for both physician and nurse, and the medicine locker consisted of an old clothes press formerly used by the minister. In the center of the chapel a partition, reaching half way to the ceiling, had been erected, thus dividing off a space into a men's ward and a women's ward. This building, together with another about half a block away, were all that were ceded to us when I received control of the medical situation at Christiansted.

MEDICAL STATISTICS

The islands—and I speak principally of St. Croix, the largest and with the possible exception of harbors the most important one of the group—as we found them were in dire need of active medical, surgical and sanitary aid. Their welfare centered naturally around their health, and this was greatly impaired. Approximately 95 per cent. of the population were black. Statistics collected by former Danish physicians indicated that the majority of the negro population had venereal disease; about 50 per cent. had syphilis in either congenital or acquired form. Filariae were present in the blood of from 15 to 25 per cent. of individuals examined, and over 5 per cent. of the adults had elephantiasis in some form. Leprosy, considering the population of the islands, was preva-

lent, there being from sixty to ninety inmates in the asylum during the first two years of our occupancy, while the total population of the islands was less than 28,000.

Typhoid fever was never troublesome, appearing only sporadically over the islands. The last severe epidemic occurred over two generations ago; but to prevent any further trouble from this source the entire population of the islands was given antityphoid vaccine during the latter part of 1918. Malaria was rare, although the anopheles mosquito was found often in collections gathered. Yellow fever and bubonic plague had been unknown for the last hundred years, while pellagra was present in a goodly percentage of the hospital cases treated.

Probably one of the greatest scourges of this small country was the high infant mortality. Fifty-one per cent. of the children died before reaching the age of 3 years and about one half of these before they were 1 year old. This high infant mortality rate may be explained by two factors: illegitimacy and the tropics. According to the United States census taken in 1918, nearly 65 per cent. of the parents living together were not legally married, and in relationships of this kind, combined with the inherent lassitude of the tropics, it naturally rested with the mother to support the children. The second contributing factor may be said to be the tropics themselves; milk, of course, soured readily, and like all foodstuffs was hard to obtain in anything like a clean state. This, combined with a lack of feeding knowledge and neglect, caused infant gastro-intestinal infections to reach a high mark.

It is safe to say that at the time of American occupation 35 per cent. of the population of the islands needed medical or surgical care of some sort. Syphilitic conditions were present, some of which disappeared like magic under the proper treatment. Venereal sores, bathed continually in pus and filth and often aggravated by edematous foreskins, were prevalent. We encountered many hydroceles containing a quart or more of fluid, hernias of enormous size and, last but by no means least, elephantiasic extremities and scrotums of such size and weight that they not only impaired the general health but served as an extremely cumbersome barrier to locomotion.

PHYSICIANS' FEES

The question of fees charged prior to American occupancy is one of especial interest. The physicians to the islands were sent by the Danish government and received ample salaries from their home government. On the other hand, the ordinary negro inhabitant of the islands had limited financial means so that charges of from one to ten dollars for major operations, while appearing exceedingly small, were really reasonable and just. The price for a herniotomy was five dollars, and the highest price charged for any operation was twenty-five dollars. These prices, of course, were for the negro population which could not well afford to pay more. Well-to-do planters, sugar factory operators and plantation-owners were charged more than the stipulated rates at the discretion of the physician. Contract work was practiced generally with the larger estates and sugar factories, these contracts calling for one or two visits of the physician at the factory and laborers' villages weekly, with visits more often during the sugar crop time.

HOSPITALS

As I have mentioned, the hurricane of 1916 wrought havoc especially to the hospital at Christiansted. The other hospitals of the islands situated at Charlotte Amalie, St. Thomas and at Frederiksted, St. Croix, suffered less and were able to continue in the same buildings. The buildings occupied temporarily by the Christiansted hospital would hardly accommodate sixty-five patients, were in no sense suited for the care of the sick, and had been barely made fit by the installation of crude plumbing, tin flooring in the operating room, kerosene lamps, and other absolute necessities. The hospital boasted two private rooms, which were private, however, only in the sense that they contained one bed each. In no other respect were they private, for they had windows that opened on a hallway, partitions that reached only half way to the ceiling, and both directly adjoined the children's ward.

Rigid iron beds which could not be taken apart and with a series of crossed iron bands for springs were what comprised the resting place for the patients in the hospital. Mattresses were made of horsehair or seaweed, pressed hard and thick. Bed linens, towels and other napery were of a heavy linen of good grade, all sent from Denmark; and with the exception of being heavy, cumbersome and unpliable, they were very fine.

FACILITIES FOR SURGERY

The operating room consisted of an east room on the second story, with a tin floor, an antique operating table, and locally constructed sinks, stands and instrument cabinets. It was lighted for night work with two large round-burner kerosene lamps. One naturally feels a trifle uncomfortable at the thought of operating under an open flame; but by using extreme caution we were able to care for the small amount of night emergency surgery that was necessary.

The instruments in the operating room were mostly of Danish origin, some of them peculiar and clumsy; but they served their purpose very well. These instruments, in addition to the ones furnished with the Navy supplies for Marines, gave us all we really needed for most of the surgery encountered. Suture material was scarce, the supply of catgut being particularly low; and as this article was hard to obtain, we were continually handicapped by the lack of it.

Surgical dressings, sponges, cotton, binders, pads, and the like were all sent out from Denmark where, it was said, they were made under the direction and supervision of the queen herself. However true or untrue this rumor may have been, it was a fact that, prior to our occupancy, yearly and oftener, if necessary, the queen would send out large quantities of surgical supplies all wrapped, sealed, labeled and sterilized ready for immediate use. A fair amount of this surgical material was on hand when we arrived.

The needles in the operating room were not of the type we had been used to; and because all metal rusts so easily in the tropics, these needles were of little value. The Christiansted hospital was indeed grateful for the gift of assorted operating needles sent to them by a Chicago hospital on realizing actual conditions.

The majority of the surgery had to be done without the use of rubber gloves, not as a matter of choice, but because the hospital had only six pairs of its own. We literally wore gloves to keep our hands clean instead of for the protection of the patient from infection, and considering our handicaps, we had comparatively few infections.

We were unable to do all the surgery that was continually at hand. We did all the surgery we could, considering the size of the hospital and the limited amount of supplies available. At best, it was a slow process, as all sterile water, instruments, etc., had to be prepared over small charcoal pots in the corridor adjoining the operating room.

PROSPECTS IN THE FUTURE

I left the islands in March, 1919, and many improvements were well under way and progressing even before this time. The American Red Cross made some liberal and beneficial donations to the hospitals of the Virgin Islands during 1918. The Christiansted hospital also received at this time a complete roentgen-ray outfit and a motor ambulance. Repairs

were effected, among them the installation of electric lights, which greatly increased the efficiency of the institution. Dispensaries for outpatients had been established at all hospitals in the islands, and a great deal of good was being done in the treatment of ambulatory cases. An earnest attempt had been made, combined with the efforts of the department of health, to ascertain and treat all venereal cases, trying if possible to get at the source of infection in every case.

The future health of these islands, and in this way the real future of the islands, depends largely on the work and the cooperation of the medical men stationed there. With the wealth of material to work on, especially surgical, duty was a pleasure to me, and I am sure that all the medical officers felt grateful for the opportunity to serve in so new, rich and fertile a field.

249 East Main Street.

Medicolegal

Time of Liability of Physicians and Surgeons

(Bowers v. Santee (Ohio), 124 N. E. R. 238)

The Supreme Court of Ohio, reversing a judgment affirmed by the court of appeals that sustained the defendant's demurrer to the plaintiff's petition, says that the petition stated that, Dec. 29, 1913, the plaintiff sustained a fracture of both bones of her left leg above the ankle joint and employed the defendant to treat the case, that he was unsuccessful in his first attempt to reduce the fracture, and in about a week attempted again to set or reset the fractured limb, and again negligently failed to place the fractured ends of the bones together, etc. This action for damages was begun in April, 1915. The defendant's demurrer was on the ground that the plaintiff's right of action was barred by the state statute of limitations, and the question was, When did the latter begin to run as against the plaintiff? Did more than one year intervene between the date on which her cause of action "accrued" and the date on which such action was commenced? The supreme court holds that, in an action for a breach of contract in such a case, the statute of limitations does not begin to run until the contract relation is terminated, and that, under the allegations of the plaintiff's petition that the contract of employment between the surgeon and his patient continued from Dec. 29, 1913, to May, 1914, the plaintiff's right of action did not accrue until May, 1914, and was not barred by the statute of limitations when the action was brought.

The first two paragraphs of the syllabus in the case of *Gillette* v. *Tucker*, 67 Ohio St. 106, 65 N. E. 865, are as follows:

1. A surgeon and physician, employed to treat a case professionally, is under an obligation, which the law implies from the employment, to exercise the average degree of skill, care, and diligence exercised by members of the same profession, practicing in the same or a similar locality, in the light of the present state of medical and surgical science; and that he will indemnify the patient against any injurious consequences which may result from his want of ordinary skill, care, and attention in the exercise of his employment.

2. It is the duty of the physician and surgeon to exercise due and ordinary skill, care, and attention, not only in and about an operation which he decides to be necessary, but also, in the absence of a mutual understanding, or notice to the contrary, to render such continued further care and treatment as the necessity of the case requires; and he is liable for injuries and damages which proximately result from the want of ordinary skill, care, and attention.

The doctrine announced in these two paragraphs is very plain and practical, so that both surgeon and patient will have their respective interests abundantly safeguarded. The doctrine is promotive of the exercise of reasonable skill, care, and treatment by the surgeon, not only at the specific time of the operation, but also during the subsequent period of treatment necessary to a reasonable and substantial recovery. The patient relies almost wholly on the judgment of the surgeon, and under the usual circumstances of each case is bound so to do; and if the injury is not reduced, and a normal condition restored, as fully or as speedily as expected, the patient is still at liberty to rely on the professional skill, care and treatment to complete such recovery so long as the surgeon continues his employment with reference to the injury. The decision in *Gillette* v. *Tucker* was by a divided court that stood 3 to 3, with a rather vigorous dissenting opinion which was followed a few years later in *McArthur* v. *Bowers*, 72 Ohio St. 656, 76 N. E. 1128; but this court now disapproves the McArthur case, and approves and reaffirms the doctrine announced in the Gillette case. Physicians and surgeons exercising reasonable care and skill need have no fear of it. Reckless and careless physicians and surgeons should be kept in fear of it.

The law should not impose on the patient a duty that he can know only through expert knowledge which he does not possess, but as to which he is compelled to accept the judgment of his physician or surgeon. Moreover, it is clearly just to the surgeon that he be not harassed by any premature litigation instituted in order to save the right of the patient in the event that there be substantial malpractice. The surgeon should have all reasonable time and opportunity to correct the evils which made the operation or treatment necessary, and even reasonable time and opportunity to correct the ordinary and usual mistakes incident to even skilled surgery. The doctrine announced here is conducive to that mutual confidence that is highly essential in the relation between surgeon and patient.

Examination Required to Determine Injury to Eye

(Holton v. Jones (N. M.), 183 Pac. R. 395)

The Supreme Court of New Mexico holds that, in a personal injury case in which the plaintiff had voluntarily exhibited an injury to his head to the jury for inspection, and the defendant moved that the court compel the plaintiff to submit to a physical examination of his head by physicians named by the defendant, it was error to deny the defendant's request. The supreme court says that an examination of the cases will show that the courts have uniformly held that, when a plaintiff in a personal injury suit voluntarily exhibits the injured part of his body to the jury for inspection, the portion of his body so exhibited becomes an exhibit in the case, like any other object or thing introduced in evidence, and the opposite party has the right to make such inspection of it as will enable him to explain, criticize or impeach its value as evidence, and to that end have it examined by experts. As to the wounds in his head, the plaintiff in this case alleged that they greatly injured and weakened his eyesight, making it difficult for him to discern objects at any considerable distance. It is a matter of common knowledge, of which courts will take notice, that the question of the impairment of vision is capable of exact demonstration by expert examination, and in this case, when the plaintiff put his head in evidence and permitted the jury to examine it, unless the eye which he complained of as being injured was put out, the jury could in no manner determine the extent of the injury to it, if any, but with the aid of experts the matter was capable of exact determination. For these reasons this cause, wherein the plaintiff recovered a judgment, is reversed and remanded with instructions to award the defendant a new trial.

Privilege Not Affected by Services Being Gratuitous

(In re Hallenberg's Guardianship (Minn.), 174 N. W. R. 443)

The Supreme Court of Minnesota holds, in a proceeding to determine the competency of a man 82 years old to care for and manage his property, that the rule as to privileged communications applied and that there was no error in excluding the testimony of a physician as to consultations with the man in regard to certain ailments, when the only ground on which it was sought to sustain the admissibility of such testimony, in the face of the express provisions of the statute to the contrary, was that the physician was the patient's son-in-law and did not expect pay for his services. The application of the rule does not depend on the services being gratuitous or paid for.

Society Proceedings

COMING MEETINGS

AMERICAN MEDICAL ASSOCIATION, New Orleans, April 26-30.

Air Service Medical Assn. of the U. S., New Orleans, April 26.
Alabama State Medical Association, Anniston, April 20-22.
Alpha Omega Alpha Honorary Fraternity, New Orleans, April 26.
American Association of Anesthetists, New Orleans, April 26-27.
American Association of Physicians, Atlantic City, May 4-5.
American Association for Thoracic Surgery, New Orleans, May 1.
American Dermatological Association, Asheville, April 22-24.
American Gastro-Enterological Assn., Atlantic City, May 3-4.
American Gynecological Society, Chicago, May 24-26.
American Laryngological Association, Boston, May 27-29.
American Proctologic Society, Memphis, Tenn., April 22-23.
American Radium Society, New Orleans, April 26.
American Surgical Association, St. Louis, May 3-5.
American Therapeutic Society, Philadelphia, May 7-8.
Arizona Medical Association, Nogales, April 16-17.
Assn. for Study of Internal Secretions, New Orleans, April 26.
Assn. of Amer. Teachers, Diseases of Children, New Orleans, April 27.
Assn. of Military Surgeons of the U. S., New Orleans, April 24.
California State Medical Society, Santa Barbara, May 11-13.
Connecticut State Medical Society, New Haven, May 19-20.
Georgia Medical Association, Macon, May 6-8.
Illinois State Medical Society, Rockford, May 18-20.
Iowa State Medical Society, Des Moines, May 12-14.
Kansas Medical Society, Hutchinson, May 5-6.
Louisiana State Medical Society, New Orleans, April 24-26.
Maryland, Med. and Chir. Faculty of, Baltimore, April 27-29.
Medical Veterans of the World War, New Orleans, April 26.
Michigan State Medical Society, Kalamazoo, May 25-27.
Mississippi State Medical Association, Jackson, May 11-12.
Missouri State Medical Association, Jefferson City, April 6-8.
National Tuberculosis Association, St. Louis, Mo., April 22-24.
Nebraska State Medical Association, Omaha, May 24-26.
New Hampshire Medical Society, Concord, May 12-13.
North Carolina State Medical Society, Charlotte, April 20.
Oklahoma State Medical Association, Oklahoma City, May 18-20.
South Carolina Medical Association, Greenville, April 20-21.
So. Section Am. Laryn., Rhin. & Otol. Society, New Orleans, Apr. 27.
Tennessee State Medical Association, Chattanooga, April 6-8.
Texas State Medical Association, Houston, April 22-24.
The Radiological Society, New Orleans, April 23-24.
Western Electro-Therapeutic Association, Kansas City, Mo., May 27-28.
West Virginia State Medical Association, Parkersburg, May 18-20.

ANNUAL CONFERENCE ON PUBLIC HEALTH AND LEGISLATION

Held under the auspices of the Council on Health and Public Instruction of the American Medical Association, March 4, 1920

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich., in the Chair.

Chairman's Address

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: There has never been a time when so many people were interested in public health as at present. National health associations specially interested may be divided into official and voluntary. The federal Public Health Service arrested bubonic plague and held it in abeyance at a total cost of between 200 and 300 lives on the Pacific Coast, when it might have spread all over this country. Splendid work has been done on pellagra. Its etiology has not been settled, but the work of Goldberger and his associates on the influence of diet on pellagra is a wonderful demonstration. The laboratory work of the Public Health Service, the testing of animal products, the research work on typhus fever, and anaphylaxis are among the most valuable activities of the United States Public Health Service. But the federal government cannot go into a state and do health work, unless requested by the state to do so. The exercise of medical functions, whether the regulation of medical practice or preventive medicine, is under state control, and I think it is rather fortunate that this is the case, because, divided as we are into forty-eight political groups, we do not have to make the same experiments at the same time. Other organizations of officials I might mention are the Conference of State Health Officers and the American Public Health Association. No better work is being done anywhere than by the International Health Board. We all know the splendid work the Red Cross did during the war and the admirable support received from the people. The Red Cross found itself at the end of the war with a great organization. With thousands of nurses, hundreds of medical officers, with millions of dollars, and plenty of work to do in Europe, the Red Cross is continuing to do that work in a most splendid way. The National Tuberculosis Association, founded in 1904, has continued to expand, and receives its revenue from the Christmas sale of stamps, which last December amounted to $4,200,000. The Association for Social Hygiene is a national organization interested in venereal or so-called social diseases, and just now there is a great deal of enthusiasm being displayed in reference to this work. The child welfare movement is more or less mixed up with the health crusade under the management of the National Tuberculosis Association; but as long as the children are getting the benefit, it does not make any difference where the aid is coming from.

Report of the Secretary

DR. FREDERICK R. GREEN, Chicago: This is the first Conference on Public Health and Legislation called by the Council on Health and Public Instruction since Feb. 6, 1917. The absorption of the public and the profession in the war rendered it inexpedient to hold a conference in 1918 or 1919. Owing to the activities and lessons of the war, the attitude of the public toward health matters is today entirely different from that of five years ago. The public health movement is rapidly passing out of the propaganda stage and is entering the constructive period. What the public wants to know today is how diseases can best be prevented and efficiency maintained at the highest point. The duty of physicians, both as individuals and as organizations, is to furnish plans for the development of governmental health agencies for each of our political units from which can be constructed the best type of organization for health conservation.

One of the greatest possibilities for usefulness in the annual midwinter conference is the opportunity which it offers for concentrating at one time and place many of our meetings and independent bodies which are now scattered throughout the year. One of the most important functions of the Council has been to act as a hub around which other movements and organizations could center. If this annual conference can be made the rallying point for as many other conferences, meetings and organizations in the health field as possible, we shall be able to secure greater effectiveness at a diminished cost, which is the essential problem of all administration.

Standardization of Public Health Activities

DR. GEORGE E. VINCENT, New York: This paper will appear in full in an early issue of THE JOURNAL.

The Standardization of State Public Health Organizations

DR. CHARLES C. CHAPIN, Providence, R. I.: When we talk about standardizing public health work we mean about what the manufacturer means by standardizing his workshop. We mean that health officers should be encouraged to adopt the very best and latest methods, and that the retention of obsolete and useless methods should be discouraged. Accepting this definition of standardization, we ask: What are the means best calculated to promote the desired improvement in the public health work of the states? Every health officer would like to improve his service. There are two main reasons why he does not do more: he does not know what to do and he has not the funds wherewith to do it. There are a lot of people who will disagree with me because I am inclined to place the greater importance on the former. The first step is to show him what others are doing and what he can and should do. One important means of standardizing state health work is to show what is being done in every state, and analyze and arrange the data so that the facts may be easily found. This is no small task, and is impossible without the assistance of the state health officers themselves. A questionnaire is a terrible thing, yet it seems to be necessary. To find what a health department is really doing, numberless questions must be asked; and to answer them correctly often requires a great deal of time and trouble on the part of a great many persons. Another important point in the organization of health work is the consideration of

relative values. It is not enough to demonstrate that the state supervision of water supplies reduces typhoid fever, that the giving of antirabic treatment prevents rabies, that the inspection of milk raises the bacterial standard, and that the operation of a sanatorium restores sick people to health. We should know, if possible, how much sickness is saved and how many deaths are prevented. Accurate accounts should be kept by every health officer of each definite line of work which he is following. One of the rarest things to find in a health office is accurate cost accounting. Uniformity in all parts of the reports of state health departments would make for economy and efficiency. Every report should contain certain standard and uniform tables of mortality and morbidity statistics. The work of every division of the department should be set forth clearly and simply, and numerical statements should be inserted whenever practicable. Much can be done to standardize and improve the work of state health organizations by a survey of their activities with a comparison of costs and results. The results of the survey should be widely distributed, and the report should include a numerical rating of the states. The collection of the data would be greatly facilitated by uniform accounting and reporting. State health officers could provide for this through a committee to consider the relative importance of health activities and the standards on which a rating should be based. A survey, however, cannot well be made by state officials. It had much better be made by some agency entirely independent of them. A survey should be made periodically, perhaps every five years. Sanitary science is growing rapidly, and sanitary practice should keep pace with it. Such surveys are expensive, but before the war the states were spending annually more than $3,250,000 for public health. The amount is far greater now. A small fraction of 1 per cent. of this would be a small sum to pay for taking account of stock.

Standardization of Municipal Health Organization

DR. ALLAN J. MCLAUGHLIN, Washington, D. C.: Standardization is both feasible and desirable to standardize "objectives" in municipal health work; but standardization in detail of methods of procedure is extremely difficult, and in many instances may be undesirable. Fundamentals in public health work are the same for all cities, and these may be standardized. These are the factors in the public health problem which are common to all cities. Standardization by an authoritative agency will be of inestimable value to the health officer in having charged to other departments the cost of the indirect health activities which are often paid for out of health appropriations. In initiating new work, standardization will be of great assistance, but its greatest aid will often be the demonstrations made by voluntary unofficial agencies. Thus, in standardizing health departments, which really means reorganization of health departments, the voluntary and unofficial agencies engaged in health work must be considered and their activities utilized to cover gaps in the official campaign. What are the aims of an ideal health department and the objectives which it seeks to attain, and what are the fundamentals of organization? The aims of health departments are the eradication of preventable disease, the elimination of corrigible physical and mental defects, and the maintenance of all individuals in the best possible physical and mental condition. In carrying out these aims we have as objectives the prevention of infant mortality, the prevention and correction of physical and mental defects in the child, and the prevention of preventable diseases. To accomplish these aims and to obtain these objectives we must consider these fundamentals in our health machine: administration, vital statistics, child hygiene, industrial hygiene, communicable diseases, public health education, sanitary engineering, food inspection, hospitals and sick relief. Standardization of the fundamentals of organization can be effected on a nation-wide basis, and a committee on standardization could formulate the general classes of work which should be undertaken in every municipal health department. An example of the value of such standardization is the possibility of securing epidemiologic data in usable form, by a proper employment of the vital statistics division, and the regular field force of the department. The committee on standardization can make very useful recommendations for the transfer of much of the work of abating nuisances, and the collection and disposal of garbage and refuse to other departments; but here again local conditions will determine how best to adjust the work in each city. The greatest single defect in municipal health organization today is the lack of machinery for coordinating and utilizing voluntary and unofficial agencies in an official plan to insure teamwork.

DISCUSSION

DR. C. ST. CLAIR DRAKE, Springfield, Ill.: My own conception of standardization is the development throughout the nation of health department machinery to the highest point of efficiency consistent with the law; along uniform lines which will permit the best coordinative functioning with all governmental and extragovernmental health agencies; with an internal arrangement of bureaus or divisions which will make possible the highest degree of cooperation with the minimum of duplication of effort. I naturally view this question from the standpoint of the state health officer. Any acceptable form of standardization must take into consideration these fundamental points: (1) a definition of what constitutes public health work; (2) definite knowledge of what all other states are doing and of the type of machinery employed by them; (3) the adoption of a definite policy of relationship to other states' health departments, to the federal government, to local health authorities, to extragovernmental health agencies and to the public at large; (4) the determination of the functions which shall be carried out by the state health department and of those which are to be imposed on other state departments; (5) the determination of the type of organization most desirable for state health departments, and the essential divisions and bureaus and their relationship to each other; (6) the determination of a reasonable and acceptable policy in dealing with extragovernmental health agencies, and (7) the determination of the extent to which federal aid in state public health work is properly to be encouraged. Any form of standardization requires a thorough knowledge of what other state health departments are doing and how they are doing it, so that there may be uniformity of procedure. Without this knowledge, it is practically impossible to compare the different departments, to interpret their reports and financial statements, or to determine the comparative efficiency of any individual department.

There should also be developed a well defined departmental policy based on a reasonable interpretation of the law; a policy in which the law is not employed as the means of evading obligations or of passing on responsibility, and a policy which does not assume more power than the statutes actually give or more than the courts would reasonably sustain.

There is also a serious need for some definite policy as to what functions the state department of health should perform, and what functions should be relegated to other state departments.

DR. ENNION WILLIAMS, Richmond, Va.: The value of any particular public health method should be ultimately measured by the morbidity or mortality statistics, and no one would undertake to interpret the results of statistics until several years shall have elapsed. For instance, for the last three years, we have been carrying on a rather active campaign in the public schools by circularizing teachers and education work to inculcate those personal habits that would prevent the transference of mouth secretions. The statistics for two years following the introduction of this measure would indicate more than 50 per cent. reduction in deaths and in cases of scarlet fever and diphtheria. Yet I would not be willing to say from the experience of two years that this measure was or was not responsible for the reduction, and consequently its value cannot yet be demonstrated. We, therefore, cannot even compare its value with the customary methods of quarantine and disinfection, which are more costly and require greater health organizations. Thus, no numerical valuation can yet be placed on such measures; also, there is likely to be a great difference of opinion as to the value of measures until they are demonstrated by statistics.

DR. W. S. RANKIN, Raleigh, N. C.: I believe in numerical scoring, not only in interstate work but also in the work of states. We do it in dairies, and in the medical inspection of schools. I am working out a system of numerical scoring for county health departments, taking the various units, or county health problems, and all the items of work embraced in those units and giving each item and each unit a financial equipment.

DR. SAMUEL J. CRUMBINE, Topeka, Kan.: I think it is appropriate for this conference, composed of health officers and members of the medical profession, to make a request of the Rockefeller Foundation to make a survey of extragovernmental agencies. If this were done I believe it would receive serious consideration. I know of no agency better fitted to undertake that work. It would be an authoritative utterance on that question.

DR. ALLEN W. FREEMAN, Columbus, Ohio: It is essential to get all the people who are interested in this health movement to recognize the necessity of laying a sound foundation. We should strive to develop a sound sentiment for health among the people, and then build a sound structure, with competent people to run it, a decent scale of salaries, and work by an administrative system covering the whole state.

DR. HAVEN EMERSON, New York: There are three absolutely indispensable functions which should be standardized: costs, results, and the control of communicable diseases. It is the function of the Public Health Service of the United States to call the attention of state health officers and local health officers to the possibility of standardizing cost accounting for public health functions. We ought to be able to show how much it costs to carry on a certain definite function. It ought to be possible to get comparative data on specific functions in communities that have organized health departments.

DR. H. N. OLIN, Lansing, Mich.: We shall find it difficult to standardize methods of accounting. I am in favor of the standardization of public health activities. Let us know what our neighbors are doing. As commissioner of health of Michigan, I should like to know the details of the health work in Massachusetts, Ohio and some of the other states, so as to give the people of Michigan better health service.

DR. FRANK BILLINGS, Chicago: I want to speak on two points. First, the need of publicity to educate the people, which is one of the reasons the American Medical Association organized its Council on Health and Public Instruction. There are approximately 80,000 members of the American Medical Association, representing the best elements of the medical profession of the country. They are interested in health and in the prevention of disease. The central office has a card index, not only of every member of the association, but of every physician in the country. Probably there is no other body of men in the country with the facilities of communication not only with organized county and state societies but also with individuals who are interested in health matters. Second, in taking up the matter, the American Medical Association had no thought of dominating the field of health, but at the time the Council on Health and Public Instruction was organized there was very little cooperative work with all the health agencies of the country, and its policy was to try to get together all of these health agencies for the purpose of concentration of effort and teamwork. I believe it has done a vast amount of good in that respect.

DR. RACHELLE S. YARROS, Chicago: The state and local boards of health have tried to enforce measures that the people do not understand. If we expect support from the people we must educate them as to what we really want. State and local boards of health should also educate physicians because many of them do not understand what we are aiming at. If we educate the people, we shall get their support.

DR. S. W. WELCH, Montgomery, Ala.: All public health work must be done by governmental agencies. We must have something around which voluntary agencies can be coordinated; and until we have a county health organization, which takes in the county as a unit, and around which can be collected and directed the activities of the general public, we are not going to get anywhere in that community. County organizations should function with the state organization.

DR. HENRY VAUGHAN, Detroit: We ought to have some centralized place where the vast amount of information collected from the different health departments throughout the country can be made available to local and state health departments. I should like to know something of the details of venereal disease control and the measures that are carried out in different parts of the country. To do that a questionnaire can be sent to every local or state health officer in the Union.

DR. GEORGE E. VINCENT, New York: If the Rockefeller Foundation were asked to cooperate in such an undertaking as that mentioned by Dr. Vaughan of collecting information, I am sure its board of trustees would be willing to cooperate with some representative agency that stood before the public authoritatively for whatever it did; and if a constructive cooperative program, based on the requirement of information and cooperation with individual state departments in building up their work, were carried out, it would be very carefully and sympathetically considered by the board of trustees of the Rockefeller Foundation.

DR. CHARLES V. CHAPIN, Providence, R. I.: It would be a good plan for somebody to make such a survey as we have been discussing. Many state health officers desire to have such a survey made. As to uniform reports of accounts, I believe that of very great importance; but I am afraid many health officers do not realize the tremendous importance of it.

(To be continued)

ANNUAL CONGRESS ON MEDICAL EDUCATION AND LICENSURE

Joint Annual Conference of the Council on Medical Education of the American Medical Association with the Association of American Medical Colleges and the Federation of State Medical Boards of the United States, held in Chicago, March 1-3, 1920

(Continued from page 913)

Report of Committee on Public Health and Preventive Medicine

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: The trend and spirit of medical schools is toward curative medicine. The graduates of our best medical schools today are not fitted to do public health work. The committee recommends that an improvement be made in this direction. During the last two or three years the National Board of Medical Examiners, examining graduates from Class A schools only, and the very best graduates of those schools, has scarcely found men who could get a passing mark in preventive medicine, although there have been excellent marks in surgery, medicine and the specialties. It is a matter for consideration whether the medical profession should fit men for preventive medicine or turn the job over to somebody else. The sanitary engineer as an all around man is better fitted as an epidemiologist than the average physician. A number of medical schools are now offering courses in public health. They have had a very precarious existence. The best public health courses are given at Harvard and at the Johns Hopkins schools, and in neither of these places is the attendance large enough to justify the existence of the school. The regulations of most of the states and many municipalities have been changed so that a medical degree is not required for health officers. Some of the best municipal health commissioners today are not physicians. In our opinion the tendency in all medical schools is to teach curative medicine, not prevention. The committee recommends that we insist that medical men who are fitting themselves for health officers should take an additional course of not less than two years. Even to make proper medical men we need more hygiene and preventive medicine in the medical course than we have. We recommend that five hours a week for one year be devoted to preventive medicine—double the amount of time we are now giving to this branch—and we do not expect to make expert

epidemiologists in this way, but possibly we can give what the ordinary practitioner needs.

DISCUSSION

DR. ALEXANDER C. ABBOTT, Philadelphia: The University of Pennsylvania in 1906 offered the first course leading to the degree of Doctor of Public Hygiene. For four years we did not have a single applicant, but in 1910 we had one applicant. Since that time we have graduated thirty-three with the degree of Doctor of Public Hygiene, and we have given a number of certificates to persons taking special departments of the work who were not qualified for the degree. I still regard the work as being to some extent experimental. The qualifications for the degree have been that a candidate shall become a Doctor of Medicine, and that the Doctor of Medicine degree should stand for the same preliminary requirements for the degree that we now require for persons entering the University of Pennsylvania Medical School. As a result, we have had satisfactory material to work on. I should say the supply and demand will control this, and the future is safe, because I take it for granted that others, who are making an honest effort to push this thing, and not rush it, are in the same position that I am. I have on my desk, more or less all the time, applications for persons to fill desirable positions. The future possibility of supplying the demands is daily growing larger.

DR. EUGENE F. MCCAMPBELL, Columbus, Ohio: At the Ohio State University we started several years ago to give a course in preventive medicine. For four years, we had a cooperative course with the state department of health. The work in preventive medicine covers the situation well. In the Ohio State University we give a course in personal hygiene in the first year in medicine. The course in clinical medicine, in which epidemiology and communicable diseases come into play, is given in the junior year. The senior year is covered by a course in preventive medicine of only two hours. I think the five-hour course referred to by Dr. Vaughan is probably adequate for the medical student, except for those who desire to enter the field of industrial medicine. Opportunities for election should be given in the junior and senior year, particularly in the senior year, for intensive study of public health work. The demand far exceeds the supply. In the state of Ohio, large commercial concerns are asking for young medical men trained in public health work, particularly in preventive medicine, industrial medicine and surgery, etc., and it is impossible to supply properly trained men.

DR. JOHN SUNDWALL, Minneapolis: Public health workers in the future should be in largest measure recruited from members of the medical profession. There is no question at all that sanitarians or other members from other professions are making good health officers. The same thing is true of a great many of the sciences that make up the medical profession. Many of our best anatomists have been recruited from the departments of zoology and biology. Public health in the future is going to be concerned with a great many bigger problems than those concerned with epidemiology, such as human welfare and mental hygiene. Industrial hygiene will be expanded to include all adult hygiene.

DR. GEORGE M. KOBER, Washington, D. C.: I have been teaching hygiene since 1889, and I want to make a plea in favor of the report of the committee for a greater number of hours in the curriculums of our medical schools for this branch. In our own school we give sixty hours to general hygiene, thirty hours to the etiology and prevention of communicable diseases, and fifteen hours to military and naval hygiene. I believe that number of hours devoted to these subjects is no more than sufficient to be of substantial aid to the average practitioner in the treatment of disease. The object of hygiene is not only the prevention of disease but also the improvement of health, which is a most important factor in the treatment of disease.

DR. G. CANBY ROBINSON, St. Louis: At Washington University we have a course of thirty-three hours in preventive medicine, and eleven hours of social medicine. We have considered ways and means of improving matters, and have discussed a plan of departmental cooperation in these matters, putting one person in charge of the course, but having all the departments participate in the working out of the completed course.

DR. A. P. MATTHEWS, Cincinnati: Dr. Vaughan's recommendation was mainly along the line of epidemiology, but there is an important field in industrial hygiene and medicine, particularly the character of people engaged in these industries. The University of Cincinnati gets support in its departments of industrial medicine and preventive medicine for public health, from the business men of Cincinnati. At the suggestion of the late Dr. Holmes, a committee of business men secured money to support the department of industrial hygiene. There is undoubtedly a great possibility of the medical profession's getting in closer touch with business industries through this means.

DR. E. P. LYON, Minneapolis: I have a feeling that as more and more subjects are pressed on the medical curriculum for entrance, we shall have to do exactly what the colleges did and make a curriculum which will be more particularly elective than any school so far has done. That will mean we shall have to specialize in degrees, and certain men who are not qualified for licensure should be content to continue their fundamental preparations until they are. We might call them all doctors when they are trained on the proper basis and fitted for the work that has to be done. Or we should view the matter from the standpoint of general good.

DR. OSKAR KLOTZ, Pittsburgh: We all realize that each school has a duty to perform which differs with the situation of the school, and it is hard to apply one standard to every school. Our own situation is much like that in Cincinnati. We have certain problems in our vicinity of outlining education in which the public is interested. If we should follow the standards of the U. S. Public Health Service in hygiene we should fail in the result. We have an industrial situation that is peculiar. The ordinary individual who has had training in hygiene is hardly able to realize the extent to which the public demands attention. The standardization of departments of hygiene is very difficult.

DR. WORTH HALE, Boston: We are developing an elective system at Harvard in the study of these problems, and are permitting fourth year men to elect a course dealing wholly with problems related to public health, hygiene and industrial medicine. We do not anticipate that they will become finished products in these subjects, but we hope that a certain group of men will become interested so that they will continue further in the work which appeals to them and thus supply some of the demand that appears to be urgent.

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: The prime and particular object of a medical school is to teach preventive medicine and curative medicine. A school for hygiene should not be under the medical department. I hope that schools of hygiene will be open not only to medical graduates but also to the sanitary engineer, the sociologist, or to any one who is interested.

Report of Committee on Teaching of Pharmacology

DRS. A. N. RICHARDS, TORALD SOLLMANN and C. W. EDMUNDS: Pharmacology has profited greatly by the advances in medical education which have taken place in the past ten or fifteen years. New departments have been established in schools where none existed before, and where the teaching of this subject was under the control of some other medical branch, it has been split off and established as a separate and distinct department. The teaching of the subject has been simplified also through the aid of the state licensing boards, which are confining their attention in examinations to the more important drugs, to the exclusion of those of lesser importance. It is hoped and expected that these tendencies, if continued, will still further advance the teaching of pharmacology in the future. In regard to the contents of the course in pharmacology, the student should learn what the really useful drugs are, and also the limitations of their usefulness. He should learn their fundamental action and their side actions. These studies lead naturally

to a study of their toxicology and to the treatment of poisoning. He must learn sufficient materia medica to know something of the physical and chemical characters of the drugs and of their principal preparations, so as to be able to prescribe them correctly, and he must become fairly proficient in prescription writing. He should also be required to practice the writing of prescriptions in his later clinical courses in medicine and in therapeutics whenever an occasion for the use of drugs arises. Some instruction in therapeutics may be given, but the practical work in this branch must necessarily be left for the hospital ward.

The time to be devoted to the subject should be from 175 to 200 hours, not taking into consideration the teaching of practical therapeutics. This may be divided roughly into two parts: from seventy-six to 100 hours to be devoted to laboratory instruction, and the remainder to a systematic lecture or quiz course. The laboratory time, in turn, may be divided into two parts if desired: one part devoted to materia medica and pharmacy being given in the first year, and the other portion devoted to pharmacodynamics proper being given in the second year. Or, if preferred, the entire time to be spent in laboratory instruction may be utilized in one course to be given preferably in the second or third year. In this course a few hours may be devoted to pharmacy and to the chemistry of drugs, but the greatest emphasis should be laid on experimental pharmacodynamics. As far as possible, the experiments should be carried out by the students, working in groups under adequate supervision; but when the experiments are not suitable for students to carry out the work themselves, demonstrations may be substituted. Carefully kept notes of all the experiments should be required of all the students. The laboratory course should be rounded out by frequent informal conferences, quizzes and lectures, so as to give the student an intelligent knowledge of the subject under discussion. Some introductory work in the prescribing of the commoner remedies may also be given in the laboratory course. The remaining seventy-five or 100 hours to be devoted to the subject may be utilized according to the wishes of the instructor in charge, either as a lecture course with frequent quizzes or as a quiz course proper following one of the standard textbooks and supplemented by lectures on different phases of the subject. This course should follow on the completion of physiology and would, therefore, naturally come in the second year or early in the third. It should cover such materia medica as may seem essential; prescription writing, which should be practiced at every opportunity, but, above all, a thorough study of the pharmacology of the more important drugs, with briefer reference to those of lesser importance and the ignoring of those which should be discarded entirely. Such mention of therapeutics may be made as will serve to assist the student in the memorizing of his pharmacology and lend greater interest to the subject, and, in addition, give him a foundation for the courses in practical therapeutics which will be given him later.

DISCUSSION

DR. A. N. RICHARDS, Philadelphia: The spirit is the thing on which we should concentrate, and the letter consequently will take care of itself. Laboratory work and laboratory methods represent the nucleus about which the course in pharmacology must center. By laboratory work I mean not only that which the student does himself, that is, the beginning, but that which he is shown by an expert instructor of experiments which he is unable to do, which experimental work is the body of knowledge which represents science. The student must be brought to know what people have been thinking about whenever they advise experiments; and to interpret the results of the experiments, he must learn something of the value of evidence and the capacity to interpret evidence. Then he will be in a position to protect himself against embarrassment and against the half digested views of others with whom he may be confronted later on. If we can impart spirit to the student, make him see that the subject is alive, that it is a fallible thing, that it is full of holes and lots of opportunities for differences of opinion, and that the subject is intrinsically difficult, we shall have accomplished half of our task.

DR. JOHN W. SCANE, Montreal: If a student in pharmacology is given a synopsis of the things in his hands, with clear directions that he is to perform certain experiments, and is left alone to work them out in his own way, giving him no spoon feeding, no actual assistance in the performance of these experiments, and then checking the work up at the end of the laboratory period on that subject, he will do much better work. We have pursued that method at McGill in the last few years with more satisfactory results than formerly.

DR. WORTH HALE, Boston: One has to adapt the course to meet local conditions. We teach very little materia medica and pharmacy. We attempt to give the student a great many chemical relations of drugs in the laboratory, and devote about an equal amount of time to pharmacodynamics. The more I teach, the more I am impressed that a student can frequently get facts and historical knowledge more easily from reference textbooks and original papers than he can from laboratory experiments themselves.

DR. HUGH MCGUIGAN, Chicago: One of the greatest handicaps I find in the students that come to us is that eight out of ten know very little or nothing about chemistry. If pharmacology is indicated, it is applied organic chemistry, and the men do not know it.

DR. ALEXANDER MACALISTER, Trenton, N. J.: As a member of the state board of examiners, in conducting examinations in materia medica and therapeutics I find that applicants for licensure are very deficient in their knowledge of dosages and in prescription writing. At our last examination, out of twenty-six applicants, there were only two who could write prescriptions properly. I think this is largely due to the fact that these branches are taught imperfectly in the majority of medical colleges.

Pathology, Bacteriology and Parasitology

Papers were read by Dr. James Ewing, New York, on "Pathology," and by Dr. A. I. Kendall, Chicago, on "Bacteriology and Parasitology."

DISCUSSION

DR. LOUIS B. WILSON, Rochester, Minn.: I cannot wholly agree with Dr. Ewing regarding the impossibility of teaching men necropsy technic in the undergraduate course, but I do agree as to the undesirability of teaching men how to perform operations for the removal of brain tumors. It is not impossible to teach a man quickly and reasonably a good necropsy technic, and unless we teach them they will never do it.

DR. J. P. JOBLING, New York: Pathology is probably the first subject the medical student takes up, in which he applies to a large degree the work he has already gone over. To a certain extent that includes anatomy, bacteriology, physiology, biologic chemistry, etc. Pathology should be taught to as large a degree as possible by actual observation, by experimental work, and by actual necropsy work.

DR. OSKAR KLOTZ, Pittsburgh: We are realizing more and more that pathology is only a special department dealing with morbid anatomy, but more and more we must realize the human side of the subject. It has been stated several times at this meeting that pathology forms more or less of a link between the fundamental departments and clinics. It has all the attributes of the fundamental departments in their ideals. It has also another attribute of its own, and that is of making it eminently human in its application to disease. That is much more difficult than to bring in some of the other fundamental departments, such as anatomy and chemistry, but pathology is one of the subjects concerning which the student realizes, for the first time, that he is approaching his ideals in medicine.

DR. ALEXANDER C. ABBOTT, Philadelphia: The burden of the song throughout this conference has been that there is a distinct and conspicuous line of demarcation between the fundamental sciences and the practical branches of medical teaching. Let us teach our sciences in the first two years, but let us develop in some way, either at the end of the second year or in the third year, a first class, gilt edge clinical laboratory, in which we shall have coordinated all of these more or less abstract sciences, a laboratory so equipped

that these sciences can be brought to bear directly on the cases seen in the dispensary and hospital.

DR. H. GIDEON WELLS, Chicago: I wish to emphasize what Dr. Wilson said about the desirability of teaching pathologic technic with laboratory animals. We can do that easily enough, but how few laboratories do it? You can give a man a good fundamental grounding in technic by using selected material.

Current Medical Literature

AMERICAN

Titles marked with an asterisk (*) are abstracted below.

American Review of Tuberculosis, Baltimore

February, 1920, 3, No. 12

*Artificial Tuberculous Infection of Guinea-Pigs Through Respiratory Route. J. B. Rogers, Cincinnati.—p. 750.
*Pulmonary Syphilis. E. H. Funk, Philadelphia.—p. 754.
Three Cases of Spontaneous Pneumothorax. E. Morris, New Haven. —p. 763.
*Spontaneous Pneumothorax Following Artificial Pneumothorax; Operation; Recovery. C. H. Cocke, Asheville.—p. 781.
*Case of Pulmonary Tuberculosis Terminating in Spontaneous Hemopneumothorax Following Artificial Pneumothorax. F. H. Heise and A. K. Krause.—p. 788.

Tuberculosis Infection of Guinea-Pigs by Inhalation.—Rogers reports further experiments on the production of pulmonary tuberculosis in guinea-pigs by the inhalation of tuberculosis material. In all the experiments the guinea-pigs were wrapped so that only their nostrils were exposed to the spraying. All animals giving a single spraying of five minutes with a suspension of tuberculosis sputum developed pulmonary tuberculosis. Particles of tuberculosis sputum containing tubercle bacilli placed on the normal nasal mucous membrane brought about tuberculosis changes in the cervical lymphatic glands with involvement of the lungs, liver and spleen later.

Pulmonary Syphilis.—Funk believes that late syphilis of the lung occurs clinically more often than is generally taught. Diagnosis is difficult and judgment may have to be suspended until syphilis has been controlled by treatment, when "apical rales" will clear with the associated bronchitis if signs are due to syphilis. The author reports in detail three cases of what he believes was pulmonary syphilis that have come under his own observation.

Operation and Recovery in Spontaneous Pneumothorax Following Artificial Pneumothorax.—A patient with acute tuberculous bronchopneumonia was treated by artificial pneumothorax. Thirty-four days after the first introduction of nitrogen gas, and following a coughing fit, spontaneous pneumothorax developed. At first partial, within twelve days the spontaneous pneumothorax had become complete, and purulent fluid developed in the chest. The patient became very septic and gravely ill and on the eighteenth day of the spontaneous pneumothorax a rib resection was done under local anesthesia. Cocke says that after surgical operation, the patient's relief was spectacular and that his fever disappeared within a day or two and has remained normal since.

Spontaneous Hemopneumothorax Following Artificial Pneumothorax.—Heise and Krause report the case of a man, aged 21, who had hemoptysis and pain in his chest. These symptoms were so indefinite that diagnosis at first was only tentative. He did well for several months but then his condition became less favorable. After six months he was continually febrile and was having more hemoptyses. Meanwhile, his signs indicated a slight stationary process, while the roentgen-ray showed markedly progressing involvement. The fifty-sixth examination was positive for the first time. By this time the patient was gravely ill. Artificial pneumothorax was performed. The next day, after raising himself in bed, the patient suddenly experienced a sharp stabbing pain in his left side. The patient went into collapse and died fourteen hours after the rupture of his lung. At necropsy, it was found that the pneumothorax needle had not injured the patient's lung. On the anterior surface near the caudal tip was a tear of the pleura over a small cavity and close to a short and very thick adhesion. The entire left lung was involved with a caseating process that was cavitating at numerous places. The left thoracic cavity contained about 2 liters of clotted blood.

Arkansas Medical Society Journal, Little Rock

February, 1920, 16, No. 9

Review of Diagnostic Methods. W. M. McRae, Little Rock.—p. 171.
When, Where and How to Operate in Fresh War Wounds. L. J. Kosminsky, Texarkana.—p. 176.
Ileocolitis. J. W. Melton, Benton.—p. 178.

Canadian Medical Association Journal, Toronto

March, 1920, 10, No. 3

*Plasmoma of Nasopharynx. J. T. Rogers.—p. 223.
Tuberculosis of Urinary System. J. E. Palmer.—p. 225
Pyloric Stenosis of Infancy. F. W. Stockton.—p. 230.
Care of Chronic Middle Ear Suppuration, Cholesteatoma, and Mastoiditis, Complicated by Labyrinthitis, Sinus Thrombosis and Meningitis. J. K. Milne Dickie.—p. 238.
*Treatment of Obstructive Dysmenorrhea. F. V. Frederick.—p. 243.
Causes of Tick Paralysis of British Columbia, Rocky Mountain Fever, Infective Jaundice and Yellow Fever. J. L. Todd.—p. 245.
Renal Calculus. W. Hutchinson.—p. 250.
Some of Severer Forms of Chonic Headaches. W. J. Chambers. —p. 256.
Cases of Ectopic Pregnancy. F. W. Gershaw.—p. 261.
Chronic Intussusception with Polypus. L. G. Pinault.—p. 265.
Case of Endothelioma of Pleura with Multiple Metastasis. A. Vallee. —p 268.
Aphasia in a Left-Handed Individual Consequent on a Right Cerebral Lesion. F. B. Gurb.—p. 270.
*Retroperitoneal Congenital Cyst Probably Arising from Wolffian Body. J. M. Elder.—p. 272.
Buried Chromic Catgut Sutures Acting As Foreign Bodies and Causing Recurrent Abscesses Thirty Years After Their Insertion. J. M. Elder.—p. 273.
Scurvy. F. G. Finley.—p. 274.
Tabes Dorsalis with Gastric Manifestations. A. H. Gordon.—p. 275.

Plasmoma of Nasopharynx.—Rogers reports a case in which posterior rhinoscopy revealed an uneven granular looking hemorrhagic mass, completely filling the nasopharynx and seeming to spring from its vault. The surface of the tumor showed areas of fresh and old bleeding. Digital palpation through the mouth suggested a movable and rather firm growth, any manipulation of which resulted in a persistent but not alarming hemorrhage. At this time Rogers considered the case one of nasopharyngeal fibroma. A general examination showed various systems normal. The growth was removed whole. Sections showed that it consisted essentially of plasma-like cells. A diagnosis of plasmoma was made. The tumor took origin from the inferior border of the cushion of the eustachian tube and the neighboring surface of the soft palate. A search through the literature and textbooks has failed to discover a similar case. The pathologic files of the Royal Victoria Hospital during the past five years record only two cases of plasmoma, one the subject of this paper and another which arose from the medulla of the bone.

Treatment of Obstructive Dysmenorrhea.—To overcome the objections and retain the beneficial effects of a glass cervical stem, Frederick constructed a thick hollow glass tube, 2 inches long, one-half inch in diameter, with the upper end smoothly rounded in the flame to the lower end of which a round flat vulcanite boss is firmly fastened. In the side of this vulcanite two small holes are drilled large enough to pass a needle and silk suture. The advantages of this instrument are said to be: (1) full dilatation; (2) free exit for discharges; (3) a means for suturing it firmly with silk so that it may be retained firmly as long as desired; (4) protection against rectovaginal wall perforation. The stem has been found satisfactory in the treatment of obstructive dysmenorrhea in selected cases.

Retroperitoneal Congenital Cyst Probably Arising from Wolffian Body.—A baby girl, aged 2 years, sustained an injury to the right kidney as evidenced by blood in the urine and reactionary temperature. The injury caused a congenital retroperitoneal cyst on the same side to undergo rapid increase in size. The anatomic situation and the general characters of this cyst were such as in Elder's opinion to warrant a diagnosis of cyst of the wolffian body.

Canadian Journal of Mental Hygiene, Toronto

January, 1920, **1**, No 4

Responsibility of the Medical Profession in Program for Mental Hygiene. A. T. Mathers.—p. 293.
Mentality of Convalescence. C. E. A. Bott.—p. 302.
One Thousand Psychiatric Cases from Canadian Army. C. K. Clarke. —p. 313.
Mental Excitement in a Psychopathic Hospital: Its Prevention and Care. E. Mills.—p. 318.
Social Service Problems of Jewish Immigrant. D. A. Fauman.—p. 323.
Applications of Psychiatry to Industrial Hygiene. S. Cobb.—p. 329.
Mental Tests in Practice. A. G. Morphy.—p. 336.

Indiana State Medical Ass'n Journal, Fort Wayne

Feb. 15, 1920, **13**, No. 2

Lipovaccines. A. P. Hitchens, Indianapolis.—p. 41.
Surgical Treatment of Empyema by Closed Method. A. E. Mozingo, Indianapolis.—p. 46.
Mastoiditis at Camp Taylor. J. W. Carmack, Indianapolis.—p. 52.

Journal of Industrial Hygiene, Boston

March, 1920, **1**, No. 11

Control of Infectious Diseases in Industrial Communities. H. Zinsser, New York.—p. 525.
*Chronic Benzol Poisoning. T. M. Legge, London.—p. 539.
Anthrax in Kashmir. R. P. White.—p 541.
Unnecessary Fatigue, A Multibillion Enemy to America. F. B. and L. M. Gilbreth.—p. 542.
Teeth and the Worker. J. Burnet, Edinburgh.—p. 546.
Spirit of Work Under Craft Guilds of Middle Ages. T. M. Legge, London.—p. 550.
Physical Examinations. F. L. Meredith, Boston.—p. 556.

Chronic Benzol Poisoning.—Two cases of purpura hemorrhagica in rubber spreaders are reported by Legge, and he claims that they are the first cases of chronic benzol poisoning known to have occurred in England. The history of these cases was practically identical, commencing with malaise and anemia, which was followed by subcutaneous and submucous hemorrhages, and both men were eventually admitted to hospital suffering from bleeding from the nose, gums and bowels. The blood count in the first case was as follows: red blood cells, 2,800,000 per cubic millimeter; leukocytes, 2,000 per cubic millimeter; hemoglobin, 35 per cent.; color index, 0.6. The chief characteristic of the postmortem examination in both cases was numerous submucous hemorrhages throughout the intestinal tract and under the endothelium of the heart. In the second case, where a more detailed examination was available, characteristic changes were observed in the bone marrow of the long bones. The conditions observed in life and after death were those seen in cases of aplastic anemia and are identical with those which have been noted in twelve cases (all fatal) arising from poisoning by T. N. T.

Journal of Nervous and Mental Diseases, New York and Lancaster, Pa.

February, 1920, **51**, No. 2

Significance of Phylogenetic and Ontogenetic Studies for Neuropathology. B. Brouwer, Amsterdam.—p. 113.
*Australian Epidemic of Acute Encephalomyelitis. J. B. Cleland and A. W. Campbell, Sydney.—p. 137.
*Possible Significance of Babinski and Other Pathologic Reflexes. E. D. Friedman, New York.—p. 146.

Acute Encephalomyelitis.—The authors believe that the paucity of cases in the Australian epidemic is chiefly due to the fact that many individuals in the community react to the presence of the virus and its toxins in the nervous system to such a slight degree that no interference with physiologic function results, hence there are no manifestations of illness. In other individuals the reaction is a degree heavier, and these are the abortive cases; in a few individuals the reaction is great and interference with function is pronounced.

Significance of Babinski Phenomenon.—It is suggested by Friedman that it is possible that all pathologic reflexes are an expression of an atavism. A lesion of the corticospinal system causes man to revert to the stage of the tree climbing monkey in whom there seems to be a dissociation between the great toe and the little toes. The presence of a positive Babinski in epilepsy would be explained by the injury to the corticospinal system and that the reflexogenic zone for elucidating these pathologic reflexes could most readily be explained on the assumption of adaptation to function.

Journal of Pharmacology and Experimental Therapeutics, Baltimore

February, 1920, **14**, No. 6

Effects of Various Colloids and Other Agents Which Produce Anaphylactoid Phenomena on Bronchi of Perfused Lungs. P. J. Hanzlik and H. T. Karsner, Cleveland.—p. 449.
*Effects of Various Colloids and Other Agents Which Produce Anaphylactoid Phenomena on Surviving Intestine and Uterus. P. J. Hanzlik, Cleveland.—p. 463.
Hemagglutination in Vitro by Agents Which Produce Anaphylactoid Symptoms. H. T. Karsner and P. J. Hanzlik, Cleveland.—p. 479.

Effects of Agents Which Produce Anaphylactoid Phenomena on Surviving Intestine and Uterus.—The results of Hanzlik's study sustain the contention elaborated in previous papers as to bronchial musculature, that the disturbances produced by the intravenous injection of agar and various nonprotein colloids, and also arsphenamin, bear no relationship whatsoever to anaphylaxis or anaphylactic shock.

Journal of Urology, Baltimore

December, 1919, **3**, No 6

*Massive Degeneration in Tuberculosis of Kidney and its Rôle in Clinical Cure. A. Randall, Philadelphia.—p. 427.
*Migrating Bladder Stone. B. S. Barringer, New York.—p. 445.
*Method for Control of Hemorrhage After Suprapubic Prostatectomy. B. S. Barringer, New York.—p. 447.
*Case of Blastomycosis Involving Prostate and Seminal Vesicles; Recovery. F. J. Parmenter and B. T. Simpson, Buffalo.—p. 449.
Nephritis in Fifty-Six Soldiers. H. Gray, Boston.—p. 459.

Massive Degeneration in Tuberculosis of Kidney and Its Rôle in Clinical Cure.—Randall pleads for the putting forth of greater effort to establish the possibility of cure by anatomic healing. He reports a case in which renal tuberculosis was not only primary, but was unilateral, and it was likewise completely destructive of the organ. Spontaneous "autonephrectomy" succeeded; the infectious character was ultimately conquered, and the patient succumbed to a disease in no way related to his renal disease—pernicious anemia. The diagnosis was made at the time of the necropsy.

Migrating Bladder Stone.—On making a rectal examination of a man, aged 50, Barringer found just within the anal sphincter a stone nearly as large as a hen's egg. The stone was black, rough and shining like coal. Twelve years before the patient had a perineal section and perineal drainage. Ten years ago he entered a hospital because of partial retention of urine, dribbling and abscess formation in the perineum. He was told that he had a growth in the rectum because of marked constipation and straining at stool. Another perineal section was performed. Ever since this last operation he noted, at intervals, the escape of urine from his rectum and fecal matter from his urethra. For the past six months this has been constant, with great urinary tenesmus and very often fecal and urinary incontinence. He has had the sensation of some obstruction and dull pain in his rectum, and has noted that his stools were ribbon-like. A year ago he again went to a hospital because of an abscess in the perineum. This was opened. The patient has never had a rectal injury, and never had introduced any foreign body into his urethra. He had an attack of gonorrhea at the age of 21. The stone had as a nucleus a piece of the shaft of a long bone. This center nucleus was surrounded by lamellae of phosphatic crystals in which no fecal matter was found except in the way of slight staining. This, in the author's opinion, clearly indicates that the stone arose in the bladder.

Control of Hemorrhage After Suprapubic Prostatectomy.—After enucleation of the prostate, Barringer inserts a strip of 2-inch gauze, several yards in length, through the open bladder into the bed from which the prostate has been removed. The gauze is packed into the prostate bed with the index finger of the right hand, or with a plain thumb forceps, against the counter pressure of two fingers of the left hand which have been previously inserted into the rectum to aid in enucleating the prostate. Enough gauze is used to overfill the prostate cavity. With the hemorrhage controlled, a simple sponge stick is passed into the bladder and the gauze ball grasped by this. The bladder is sutured to the rectus fascia and the hole in the bladder sewed up,

simply allowing space for the gauze and sponge stick. No tubes are put into the bladder but the urine finds exit alongside the sponge stick and gauze. The dressings are changed as often as they are saturated. If the bleeding begins again, pressure on the sponge stick controls it.

Blastomycosis Involving Prostate and Seminal Vesicles.—The patient whose case is recorded by Parmenter and Simpson is said to be one of the few to recover from extensive systemic blastomycosis. Only in the epididymis is there any evidence of the disease after four years, during which time the lungs, skin, muscles of the leg, prostate and seminal vesicles have been involved.

Medical Record, New York

March 6, 1920, **97**, No. 10

Instincts, Emotions and Endocrines in Sterility. S. W. Bandler, New York.—p. 383.
Pandemic of Influenza as it Affected Canton, China. W. W. Cadbury, Canton.—p. 391.
Dreams of Feebie Minded. W. S. Walsh, Providence, R. I.—p. 395.
Intestinal Toxemia; Its Medical and Surgical Treatment. W. F. Burrows and E. C. Burrows, New York.—p. 398.
*Chronic Anilin Poisoning. W. G. Thompson, New York.—p. 401.

Chronic Anilin Poisoning.—A case of chronic anilin poisoning, manifesting all of the typical symptoms, namely, vertigo, gastritis, diplopia, asthenia and an exfoliative dermatitis, is reported by Thompson. The cause of the poisoning was a French hair dye called "goute à goute." The type of anilin was paraphenophendiamin, 2 per cent., hydrogen peroxid, 75 per cent., and alcohol, 23 per cent. Thompson points out that the menace of anilin hair dyes has not yet sufficiently been emphasized to be appreciated generally by the medical profession. The fact that personal susceptibility varies as much as in the case of poisoning, for example, by Rhus toxicodendron, only makes it more difficult always to recognize such cases. It is well to be suspicious of artificial Titian red hair and all the darker shades up to jet black.

March, 13, 1920, **97**, No. 11

*Etiology of Thrombo-Angiitis Obliterans. W. Meyer, New York.—p. 425.
*Chemical Blood Findings in Thrombo-Angiitis Obliterans. A. Bernhard, New York.—p. 430.
*Pathology of Thrombo-Angiitis Obliterans. L. Buerger, New York.—p. 431.
Ureteral Kinks and Their Significance. F. A. Roberts, Newark.—p. 437.
*New Method of Phagocytosis Test, with Blood Plasma. Specific Immunologic Reaction. M. Otani, Tokyo.—p. 439.
Cancer Problem. E. H. King, Portland, Me.—p. 444.

Etiology of Thrombo-Angiitis Obliterans.—Meyer asserts that the characteristics of the patients who are particularly prone to develop thrombo-angiitis obliterans seem to indicate a hereditarily weak sympathetic nervous system. Hence, the functioning of the eliminating glands (kidneys, etc.) innervated by that nervous system, is probably subnormal. When the system of such a patient is kept incessantly flooded with tobacco smoke poisons over long periods of time, the elimination of the poisons by these glands is liable to fall behind, and the system will gradually become saturated with the poisons. This is the starting point of the trouble. Vicious circles of various types, a general upset of physiologic balances in the blood, tissue asphyxia, etc., are induced, and cause, secondarily, blood vessel lesions which in time lead to the onset of the symptom complex known as "intermittent limping" and, under certain conditions, to the culminating development of the disease, "gangrene." The only real cure for the disease is prophylaxis. People so constituted as these Hebrews are should not smoke. They should be warned in good season—at home, in school, from the pulpit—of the deleterious effects and serious consequences to them of the excessive use of cigarets.

Chemical Blood Findings in Thrombo-Angiitis Obliterans.—The results of investigation of the sugar tolerance test in thirty-six verified cases of thrombo-angiitis obliterans revealed the following: 1. The blood sugar concentration at the zero hour varies between 96 and 210 mg., with an average of 115 mg. per hundred cubic centimeters, the urine showing no sugar at the zero hour. 2. The blood sugar at the end of the forty-five minute period varied between 106 and 344 mg., with an average of 179 mg., and 36 per cent. of the patients showed sugar in the urine at the forty-five minute period, of which 23 per cent. had a lower blood concentration than 150 mg. Six patients had a blood sugar concentration of 180 mg. or higher without showing sugar in the urine, and 69 per cent. showed a concentration of 150 mg. or more. 3. The blood sugar at the end of the two-hour period varied between 96 and 288 mg. with an average of 146 mg.; 33 per cent. showed sugar. 4. In three cases, or 8 per cent. of all the cases, Type I reaction was obtained; 92 per cent. of the cases gave Type II reaction. In none of the cases did Type III reaction result. In contrast, the series of 300 other cases gave 36 per cent. Type I, 55 per cent. Type II, and 9 per cent. Type III.

Pathology of Thrombo-Angiitis Obliterans.—The lesions in thrombo-angiitis obliterans as noted by Buerger are, in chronologic order: (1) an acute inflammatory lesion with occlusive thrombosis, the formation of miliary giant cell foci; (2) the stage of organization or healing, with the disappearance of the miliary giant cell foci, the organization and canalization of the clot, the disappearance of the inflammatory products; (3) the development of fibrotic tissue in the adventitia that binds together the artery, vein and nerves.

New Method of Phagocytosis Test with Blood Plasma.—This method is described in such detail that the original article should be consulted. The basis of the method is the observation that the citrated or oxalated blood plasma of persons infected by a certain species of pathogenic microorganism has been found to have a remarkably augmented phagocytal power against that particular species of microorganism. The acceleration of phagocytosis is considered to be one of the immunologic reactions, by means of which an early diagnosis of tuberculosis, typhoid fever and dysentery may be established. The method is far more simple than Wright's opsonin test. It can easily be applied for clinical purposes as well as for immunologic investigation.

Michigan State Med. Society Journal, Grand Rapids

March, 1920, **18**, No. 3

Industrial Surgery and Its Similarity to War Surgery. H. N. Torrey, Detroit.—p. 105.
Wound Shock. F. S. Baird, Bay City, Mich.—p. 107.
The Cancer Question. J. G. R. Manwaring, Flint, Mich.—p. 110.
Tuberculosis. G. Waters, Memphis, Mich.—p. 113.
Diagnosis and Treatment of Peripheral Nerve Injuries. F. C. Kidner, Detroit.—p. 116.
*Case of Aortic Aneurysm. A. M. Crance, Bay City, Mich.—p. 120.
Congenital Harelip and Cleft Palate. C. L. Straith, Detroit.—p. 122.

Blood Pressure in Aortic Aneurysm.—The only symptom complained of by Crance's patient was "slight pain in the chest with an occasional shortness of breath," but the pathologic findings were quite numerous. There was a decided difference in the pressure in both arms, an important sign which points toward aneurysm. Hence, Crance believes, the blood pressure should be taken bilaterally in all cases presenting cardiovascular symptoms. He also is of the opinion that chancres occur within the urethra, associated with gonorrhea, more often than has been realized.

Military Surgeon, Washington, D. C.

March, 1920, **46**, No. 3

William Paul Crillon Barton (1786-1856), Surgeon, Navy—A Pioneer in American Naval Medicine. F. L. Pleadwell, Washington, D. C.—p. 241.
American Physician in Draft and in Service of World War. V. C. Pedersen, New York.—p. 282.

Nebraska State Medical Journal, Norfolk

February, 1920, **5**, No. 2

Knee Joints. H. Winnett Orr, Lincoln.—p. 33.
Enlargement of Cervical Lymph Glands. F. W. Heagey, Omaha.—p. 37.
Abscessed Teeth and Systemic Disturbances. J. W. Shuman, Sioux City.—p. 40.
Blood Sugar; Report of Cases. Miles J. Breuer, Lincoln.—p. 44.
Blood Chemistry and Its Clinical Significance. M. G. Wohl, Omaha.—p. 48.
Necropsies. A. A. Conrad, Crete.—p. 51.
Roentgen Diagnosis of Malignant Bone Tumors. S. A. Levey, Omaha.—p. 54.
General Anesthesia. G. W. Reneker, Falls City.—p. 55.

New Jersey Medical Society Journal, Orange

March, 1920, **17**, No. 3

Some Medical Tendencies and Responsibilities. A. Lambert, New York.—p. 73.
Mental Hygiene and Public Health. C. C. Beling, Newark.—p. 79.
Public Health Service in Middlesex County. C. W. Naulty, Jr., Perth Amboy.—p. 83.
After-Care of Sanatorium Patients. M. J. Fine, Newark.—p. 85.
*Colon Bacillus in Vagina as a Cause of Leukorrhea and Sterility. S. Barbash, Atlantic City.—p. 87.
Wassermania. C. L. DeMeritt, Hoboken.—p. 89.

Colon Bacillus in Vagina as a Cause of Leukorrhea and Sterility.—Barbash uses autogenous vaccines in all cases of leukorrhea with very gratifying results. He also uses local treatments consisting of tampons impregnated with a preparation containing ichthyol, iodin and phenol. The vaccines invariably contained the colon bacillus together with one of the staphylococci. These cause at times a profuse leukorrhea with highly acid reaction, which in turn may cause ulceration in the vagina. The colon bacillus by reason of its acid producing ability renders the patient sterile.

New York Medical Journal

Feb. 21, 1920, **111**, No. 8

Occupational Diseases. J. F. X. Jones, Philadelphia.—p. 309.
Education of Physician. F. T. Woodbury, Edgewood Arsenal, Md. —p. 317.
Compulsory Health Insurance. E. MacD. Stanton, Schenectady, N. Y.—p. 320.
Bill of Rights of Child. I. W. Brewer, Watertown, N. Y.—p. 323.
Clinical Interpretation of Scarlatinoid Rashes. M. Scholtz, Los Angeles. —p. 325.
Metatarsalgia and Allied Conditions. A. D. Kurtz, Philadelphia. —p. 329.
Treatment of Syphilis by New Mercurial Preparation. J. Lewengood, New York.—p. 331.
My Friend, The Consultant. L. M. Kahn, New York.—p. 332.

Feb. 28, 1920, **111**, No. 9

*Roentgen-Ray Studies of Functional Alterations of Diaphragm. H. K. Pancoast, Philadelphia.—p. 353.
Errors in Abdominal Diagnosis as Seen by Pathologist. S. P. Reimann, Philadelphia.—p. 355.
Relationship of Ophthalmology to Group Diagnosis. H. E. Smith, New York.—p. 357.
Sources of Error in Estimation of Blood Pressure. A. E. Oliensis, Philadelphia.—p. 358.
Modern Treatment of Sterility. H. M. Armitage, Chester, Pa.—p. 360.
Treatment of Tuberculosis in Experimental Animals. B. S. Paschall, New York.—p. 363.
High Heels and Body Health. H. Scheimberg, Brooklyn.—p. 369.
Bone Tumors of Thyroid Origin. J. C. O'Day, Honolulu, Hawaii. —p. 374.
Heredity. L. D. McEvoy, New York.—p. 375.

Roentgen-Ray Studies of Functional Alterations of Diaphragm.—Greater study of the diaphragm movements is urged by Pancoast. Interference with the action of the diaphragm is readily detected by the roentgenoscope and this may be an important means of determining the structure effected and the pathologic conditions responsible for the functional disturbances of the muscle. The study of the diaphragm is, therefore, an important means of diagnosis, and in a few instances, the sole source of knowledge whereby the condition present can be determined. These conditions are detailed by Pancoast.

March 6, 1920, **111**, No 10

Psychology of Flying. H. G. Sutherland, London.—p. 397.
*Somatic Symptoms in Nervous and Mental Diseases. F. X. Dercum, Philadelphia.—p. 402.
Varieties of Tremor at Front. T. A. Williams, Washington, D. C. —p. 404.
Problems of Eugenics in Connection with Manic Depressive Temperament. B. Onuf, Rutherford.—p. 407.
Lethargic Encephalitis. S. E. Jelliffe, New York.—p. 412.
Neurogenic Study in Production of Dyspnea. F. P. Miller, Los Angeles.—p. 416.
Gastric Ulcer Treated by Nerve Blocking. E. A. Parker, Brooklyn. —p. 418.
Use of Relaxation in Hypertensive States. E. Jacobson, Chicago. —p. 419.
Treatment of Tuberculosis in Experimental Animals. B. S. Paschall, New York.—p. 423.

Somatic Symptoms in Nervous and Mental Diseases.—A condition met with infrequently to which Dercum calls attention is one in which primary nervous disease and primary visceral disease coexist in the same patient; for example, brain tumor and hysteria, pelvic disease and hysteria. A case in point is cited. The early history suggested an actual lesion of the esophagus due to some trauma in the act of swallowing, perhaps from a bolus of hard or mechanically irritating mass of food, and the first esophagoscopy seemed to confirm this. Later, it seemed as though the symptoms had their origin in a spasm of the esophagus; later still the symptoms suggested hysteria, particularly as they disappeared for a time under suggestion. However, convulsive seizures which were neither reconcilable with those of hysteria or of a true epilepsy, remained unexplained. It was only the later appearing mental features which led to a correct appreciation of the case. Evidently the case was one of dementia praecox in an early stage, the symptoms of which at the time the patient first presented himself were just beginning to reveal themselves. His early conduct and general demeanor in the wards became increasingly explicable as he continued under observation. It would appear further that the convulsions which the patient described and which were difficult to classify, are to be regarded as among the epileptiform attacks—the motor crises—every now and then met with in cases of dementia praecox, especially in the developmental period. Finally, the case teaches a valuable lesson as to the interpretation of local or visceral symptoms, when the latter have no or little physical foundation, and when, still further hysteria offers an inadequate and unsatisfactory explanation.

Oklahoma State Medical Ass'n Journal, Muskogee

December, 1919, **12**, No. 12

Tuberculosis Dispensary. H. T. Price, Tulsa.—p. 341.
Review of Tuberculosis. J. W. Nieweg, Duncan.—p. 344.
Acute Miliary Tuberculosis Following Puerperal Infection. M. H. Newman, Oklahoma City.—p. 347.
Newer Methods of Differentiating Effort Syndrome, Tuberculosis, and Hyperthyroidism. R. M. Balyeat, Oklahoma City.—p. 350.

Southwest Journal of Med. and Surg., El Reno, Okla.

February, 1920, **28**, No. 2

Laboratory as Aid in Practice of Medicine. S. F. Hoge.—p. 25.
Fistula-in-Ano. S. B. Hibbard, Kansas City, Mo.—p. 31.
Ileocecal Insufficiency. J. M. Postell, B. H. Lovelady, F. H. Clark, M. S. Gregory, Oklahoma City.—p. 40.
The Conscious Conflict as a Factor in the Etiology of Hysteria. M. S. Gregory, Oklahoma City.—p. 48.

Southwestern Medicine, El Paso, Texas

February, 1920, **4**, No 2

Prostate. N. D. Brayton, Miami, Ariz.—p. 1.
Etiology and Nonsurgical Treatment of Chronic Otitis Media. H. L. Brehmn, Albuquerque, N. M.—p. 6.
Treatment of Hay Fever. R. R. Brownfield, Phoenix, Ariz.—p. 10.

Surgery, Gynecology and Obstetrics, Chicago

March, 1920, **30**, No. 3

*Malignant Myoma and Related Tumors of Uterus. N. Evans, Rochester, Minn.—p. 225.
*Treatment of Tuberculous Osteoarthritis by Bone Grafts. C. R. LaValle, Buenos Aires, Argentine.—p. 239.
Pertrochanteric Fracture of Femur. A. O. Wilensky, New York.—p. 244.
*Origin of Tumors of Ovary. J. R. Goodall, Montreal.—p. 249.
Puerperal Infection; A Plea for Early Operation in Pelvic Septic Phlebitis. A. J. Nyulasy, Perth, Australia.—p. 265.
Urologic and Radiographic Study of the Samar Twins. H. W. Plaggemeyer, Detroit, and J. H. Selby, Washington, D. C.—p. 269.
*Acute Osteomyelitis and Periostеitis Complicating Epidemic Influenza. M. Behrend, Philadelphia.—p. 273.
*Frequency and Significance of Omphalitis. A. N. Creadick, New Haven, Conn.—p. 278.
Rupture of Rectum During Labor. L. Dorsett, St. Louis.—p. 283.
Infections of Kidney in Gynecologic Practice. W. S. Danforth, Evanston, Ill.—p. 284.
Maternal Mortality; a Crime of To-Day. C. H. Davis, Milwaukee. —p. 288.
Intracranial Pressure. C. C. Rogers, Chicago.—p 291.
*Clinical Application of Carrel-Dakin Method to Cases of Acute Appendicitis Requiring Drainage. E. T. Rulison, Jr., Sacramento.—p. 294.
Protection of Skin from Pus, Urine, Feces, Chemicals or any Other Irritating Material by the Use of Sheet Rubber Adherent to the Skin. A. L. Soresi, New York.—p. 306.
Amputation of Hip-Joint with Removal of Whole Bone, and Flaps Amputated Just Above. G. Torrance, Birmingham, Ala.—p. 308.
External Surgery of Nasal Accessory Sinuses. A. G. Coakley, New York, and W. W. Pearson, Des Moines, Iowa.—p. 309.
Brain Abscess Complicating a Local Cranial Infection. W. Sharpe, New York.—p. 312.

Tumors of Uterus.—Evans makes a very detailed analytical report of the study of seventy-two cases in a series of 4,000 operations for uterine fibromyoma.

Treatment of Tuberculous Osteartritis by Bone Grafts.—LaValle uses grafts which extend from the diaphysis to the epiphysis without touching the articular cavity or coming in contact with the tuberculous tissue.

Origin of Tumors of Ovary.—Goodall's work is based on sections, both serial and nonserial, from ovaries of 127 females of all ages, from a few hours to 80 years, as well as on serial sections of five human embryos. The comparative study covers, roughly, 15,000 sections, mostly serial, from the cow, pig, sheep, cat, mouse, rabbit, guinea-pig and the dog, and from the embryos of the cow, dog, pig and cat. He takes up the histology of the ovary, the significance and origin of its various structures, its analogy to the testis and the origin of various tumors of the ovary.

Osteomyelitis and Periosteitis Complicating Epidemic Influenza.—Behrend reports five cases in one of which the radius was removed. He also reviews the literature of excision of the radius.

Frequency and Significance of Omphalitis.—On microscopic examination of the cord in 2,200 consecutive cases in which the infant weighed more than 1,800 gm., forty-three specimens showed leukocytic infiltration of the vessel walls and the adjacent connective tissue. The lesion is not pathognomonic of syphilis, for (*a*) it was present in forty cases where there was no evidence of syphilis, and (*b*) it was absent in twenty-nine cases of undoubted syphilis. The lesions arises by the extention of bacterial infection from the placenta. Bacteria are frequently demonstrable in sections of the cord. The lesion is commonly associated with prolonged labor after premature rupture of the membranes. The frequency of these infections and the resulting infant mortality, Creadick says, may be reduced by the use of rectal in place of vaginal examinations.

Carrel-Dakin Method in Acute Appendicitis.—The antiseptic treatment of cases of acute appendicitis requiring drainage was undertaken by Rulison in February, 1918, as a routine. Eighteen patients have been treated by him. During the procedure of appendicectomy and drainage of a peritoneal abscess an extensive contamination of the operative wound necessarily occurs. In the cases reveiwed by Rulison, the average period of suppuration was 15.4 days, during which time the majority of the wounds discharged foul pus and sloughs. The average duration of hospital stay was twenty-eight days. Among the frequent complications, fecal fistula developed in 7.5 per cent. of the cases. There was a 9.1 per cent. mortality. Whether the course of these cases may be improved in any of these essential particulars by the use of antiseptics is dependent on their safe application and a determination of their efficiency in this type of infection. Severe pain reactions and shock attend the introduction of surgical solution of chlorinated soda into the free peritoneal cavity. The use of this antiseptic must, therefore, be restricted to the treatment of the drainage tracts after the period of walling-off has occurred. The injections are, therefore, not intraperitoneal but intra-abdominal. The satisfactory establishment of a water-tight drainage tract seems to depend as to its rapidity of formation on the type of infection. Great caution as to time and manner of introducing the fluid is necessitated. Accidents involving the integrity of intra-abdominal drainage tracts, with escape of the fluid into the free peritoneal cavity, are attended by grave danger, especially if infection be present. Less slough and less foul discharge were noted in the cases treated by this method. The average time when all treatment was stopped and dry dressings applied was 13.8 days. There was no gross suppuration in seven cases, and profuse suppuration in five cases. The discharge was odorless throughout in two cases. The average duration of odoriferous discharge in fifteen cases was only six days, and in a number of cases the odor was slight. There were no cases of disruption of the wound, and only one case in which real wound infection occurred. The details of the procedure are given and the results obtained are analyzed.

Tennessee State Medical Ass'n Journal, Nashville

January, 1920, **12**, No 9

Treatment of Dysmenorrhea. C. N. Cowden Nashville.—p. 317.
Blastomycosis. J. M. King, Nashville.—p. 319.
Paranoia. W. S. Farmer, Nashville.—p. 321.
Uses of Thomas Knee Splint. R. W. Billington, Nashville.—p. 325.
Gleet. I. Simons, Nashville—p. 329
Parturient Woman, The New-Born Babe. I. A. McWain, Paris. —p. 335.
Surgical Treatment of Pelvic Infections. W. C. Dixon, Nashville. —p. 340.
The Dollar Doctor. W. S. Nash, Knoxville.—p. 343.

February, 1920, **12**, No. 10

Clinical Pathologist: A Medico-Sociological Study. W. Krause, Memphis.—p. 355.
Two Years' Experience with Radium. E. T. Newell, Chattanooga. —p. 358.
Interpretation of Reports on Wassermann Reaction. J. H. Litterer, Nashville.—p. 364.
Empyema. G. R. McSwain. Paris—p. 367
Indications for Version and Other Considerations. W. T. Pride, Memphis.—p. 378.
Practical Phase of Blood Pressure. C. D. Robbins, Gallatin.—p. 380.
Headaches from Eye Strain. E. C. Ellett, Memphis.—p. 382.
Headache Due to Intracranial Pathology. B. F. Turner, Memphis. —p. 384.

FOREIGN

Titles marked with an asterisk (*) are abstracted below. Single case reports and trials of new drugs are usually omitted.

British Medical Journal, London

Feb. 21, 1920, **1**, No. 3086

*Atony and Prolapse of Large Intestine. J. W. Smith.—p. 243.
Tumors Complicating Pregnancy, Labor and the Puerperium. Ovarian Tumors. H. R. Spencer.—p. 246
*Effects of Deficient Dietaries on Monkeys. R. McCarrison.—p. 249.
Protective Inoculation Against Influenza. W. H. Wynn.—p. 254.
*Some Unusual Forms of Dysentery. G. C. Low.—p. 255.
*Ankylosis of Mandible and Its Operative Treatment. G. Chubb.—p. 257.

Atony and Prolapse of Large Intestine.—The symptomatology of this condition, Smith says, is quite definite. In the majority of cases there is a history of a distinct starting point. Quite often it has been a continued and severe attack of abdominal pain, usually right iliac or lumbar, with confinement to bed for from two to three weeks. After subsidence the pain continues, more marked at intervals, which tend to become shorter. When the pain is right iliac, the symptoms strongly suggest a subacute appendicular attack, without pyrexia, and doubtless this has actually been present in many cases. Sometimes the pain is right lumbar, in the subhepatic area. In such cases one suspects kinking at the hepatic flexure. Much rarer is left iliac pain. In the cesspool cecum a succussion splash is usual in the right semilunar line, above and outside McBurney's point, but below the level of the umbilicus. This may also be found on the left side in the pelvic colon cases. Constipation, though frequent, is not constant. Dull, aching abdominal pain and feeling of weight is very constant, either in the lower abdomen, more marked to the right, or in the epigastrium. Its occurrence may or may not be associated with the taking of food, but it is often associated with the erect posture, and is then relieved by lying down, and often by manual support of the abdominal wall. Gastric or duodenal trouble, sometimes with frequent vomiting, sometimes with epigastric pain after food is noted. Abdominal crises, such as accompany floating kidney, are associated with enteroptosis. Very marked pulsation of the epigastric aorta, sometimes visible pulsation, is frequent. After some experience, paying attention to these points, Smith states a diagnosis can generally be made. In the great majority of these cases, especially in their early stages, medical treatment alone is needed, and very frequently, if carried out carefully and continuously, it effects either a cure or such amelioration as to render life comfortable and useful.

Effects of Deficient Dietaries.—Dietaries which are deficient in vitamins and in protein, and at the same time excessively rich in starch or in fat, or in both, are, in McCarrison's opinion, potent sources of disease, and especially of gastro-intestinal disease. An excess of fat, in association with deficiency of "B-vitamin" and protein and super-

abundance of starch, is peculiarly harmful to the organism. Certain dietetic deficiencies greatly favor the invasion of the blood and tissues by bacteria; especially is this the case when deficiency of vitamins and protein is associated with an excessive intake of starch. Since life cannot be sustained in the monkey for much longer than 100 days on a dietary almost wholly devoid of "B-vitamin," it would appear that complete absence of this vitamin from the food is of less practical importance from the point of view of the production of disease in human beings than its subminimal supply. Complete deprivation of "B-vitamin," especially if there be also imperfect balance in other essential requisites of the food, will lead to rapid dissolution and death; subminimal supply of this vitamin will lead, in like circumstances, to slow dissolution and disease. McCarrison suggests that his findings may afford some explanation of the genesis of that great mass of ill defined gastro-intestinal disorders and vague ill health which forms so high a proportion of human ailments at the present day.

Some Unusual Forms of Dysentery.—As proof that other conditions, many of them very common, may produce an almost similar clinical picture to real dysentery, Low cites the following cases: syphilitic ulceration of the rectum; large fungating malignant growth in the rectum; advanced tuberculosis of the lungs, with extensive tuberculous ulceration in the small and large bowel; schistosomiasis infection only; *paragonimus* dysentery; *heterophyses* dysentery; ankylostomiasis; balantidial dysentery, pseudodysenteries, such as foreign bodies impacted in the rectum above the anus.

Ankylosis of Mandible and Its Operative Treatment.—Chubb reports five cases in which removal of the coronoid process overcame the ankylosis. No tissue flap transplantation was done.

Journal of Mental Science, London

January, 1920, **66**, No. 272

Need for Schools of Psychiatry. C. H. Bond.—p. 10.
*Mental Cases of Endocrine Considerations. G. P. U. Prior.—p. 23.
Treatment of General Paralysis. G. H. M. Krohn.—p. 46.

Mental Cases of Endocrine Considerations.—In a series of forty-six postmortem examinations, in which the glands had been taken for examination, twenty-five persons had a definite thymus gland. Among these forty-six cases were thirty-two epileptics; twenty-two of these latter had the thymus present. The largest glands were found among the epileptics. Eight epileptics died a sudden death. All had enlarged thymuses. The suprarenals showed degenerative changes in fifteen cases. In four patients there was a deficiency in the interstitial cells of the testes. The pituitary showed no constant change in twenty cases; it was either normal or of slightly increased activity. The thyroids were mostly of two types, seven being taken as being quiescent and twelve as of overactivity. The pineal gland of two examined showed degenerative changes. The liver from nineteen patients was examined. Thirteen showed signs of fatty degeneration or fatty infiltration. The pancreas was reported on from fourteen patients. In nine, the islets of Langerhans were few in number and showed degenerative changes. The spleen from eleven patients was examined. From one case it was reported normal, in one there were small hemorrhages, in two waxy degeneration; six showed fibrotic changes. In twelve female cases an enlarged thymus was found in seven. Of the ovaries in eight cases, the fibrous tissue was much increased and the organs were shrunken and atrophic. In three instances, small Graafian follicles were seen. Most worthy of note in these results is the large percentage of cases in which the thymus is found to persist, and the great number of times in which there is found degenerative changes in the suprarenal cortex. That the liver, spleen and pancreas are seldom reported to be normal is suggestive, but the number of times these organs have been examined is not sufficient to say that changes are constant. The fibrotic and atrophied ovary appear to be present almost invariably, and the fact that the menstrual function is most irregular in epileptics may depend on this. A corresponding change is not found to the same persistency in the male sex gland.

Lancet, London

Feb 21, 1920, **1**, No. 5034.

*Tumors Complicating Pregnancy, Labor and the Puerperium. H. R. Spencer.—p. 411.
Surgery During War. V. W. Low.—p. 419.
Gas Poisoning. W. P. Herringham.—p. 423.
Some Aspects of Tuberculosis Problem. T. D. Lister.—p. 425.
*Abscess of Liver Among British Eastern Troops. A. L. Candler. —p. 429.
*Influenzal Pneumonia: Intravenous Injection of Hydrogen Peroxid. T. H. Oliver and D. V. Murphy.—p. 432.
Anesthesia in Throat and Nose Operations. F. Rood.—p. 433.
Case of Hirschsprung's Disease (Megacolon) Causing Acute Obstruction. I. Tewfik.—p. 435.

Tumors Complicating Pregnancy, Labor and Puerperium.—Of the cases recorded by Spencer, three were terminated by death. The first death resulted from intestinal obstruction, due to nipping of the ileum between two subperitoneal fibroids—a very rare accident, of which Spencer has not been able to find another example. The other two deaths suggest the necessity of bacteriologic examination of the tumor before resorting to conservative abdominal operations. In one case there was present a foul discharge, after a miscarriage which had occurred six days previously at the second month. Spencer enucleated a sessile submucous myoma and removed a mass of putrid decidua in 1898. Subsequently the woman gave birth to two children. She remained in good health till 1917, when she began to lose considerably, and the abdomen increased in size. She became cachectic. She had a large, fixed, irregular, uterine tumor, nearly filling the abdomen. She had also pleural effusion and hemoptysis and other signs of growth in the lungs. From the cachectic condition, the hemorrhages and foul discharge, it appeared probable that the growth was a uterine sarcoma. The woman died nearly twenty years after the enucleation of the fibroid.

Abscess of Liver Among British Eastern Troops.—The points of importance to which Candler directs attention are that often there is no history of diarrhea or dysentery in these cases; often no amebas are found in the feces, and even in fatal cases little or no ulceration of the bowel is found postmortem. Fairly low temperature, pulse rate, and leukocytosis are not always contraindicative of the presence and quantity of pus. The liver may not be enlarged downward, or only slightly so, because of necrosis around the abscess occurring rather than the liver enlarging or being pushed downward. If the puncture fails to find pus in a case diagnosed clinically, an epigastric incision should be made in an attempt to get a scientific early diagnosis and treatment. Drainage should be free, followed by daily sterile dressing and a course of emetin hypodermically. The drainage tubes should be removed as early as possible to prevent secondary infection and sinus formation. Inflamed lung is liable to disguise inflamed liver below and beneath it.

Intravenous Injection of Hydrogen Peroxid in Influenzal Pneumonia.—There occurred in Bushra in June and July, 1919, a severe epidemic of influenza, most marked among Indian troops, and accompanied in many cases by an exceedingly toxemic and fatal bronchopneumonia. In one large Indian hospital in which the influenza cases were segregated in special huts, the death rate was over 80 per cent. in the pneumonia cases with toxic symptoms. So useless were the usual remedies tried in this latter class of case, that Oliver and Murphy felt justified in giving a trial to the intravenous injection of hydrogen peroxid. The first case was one of bronchopneumonia of influenzal origin and intensely toxemic. The patient had been delirious for two days previously, and was selected as being the worst case in the ward and to all appearances moribund. Two ounces of a ten volume solution of hydrogen peroxid were diluted with 8 ounces of physiologic sodium chlorid solution, and the solution made slightly alkaline with 5 minims of liquor ammoniae. This produced a faintly effervescing solution. The median cephalic vein was exposed by open dissection, and the solution infused through a glass cannula attached to a Rogers apparatus.

The solution was infused very slowly, a complete stop being made for half a minute in every four. Small bubbles were allowed to enter the vein unchecked, but if a large accumulation of oxygen appeared in the cannula, the transfusion was checked for about one minute until it had gradually entered the vein. The whole transfusion lasted for fifteen minutes. The patient showed no signs of discomfort until toward the end of the operation when he became slightly restless. This, however, passed off in a few minutes, and there were no other untoward symptoms, except a moderate rigor which occurred two hours later. After the rigor, the temperature which had been 101.8 F. fell to normal and remained so for thirty-six hours, when it again rose to 101 F. The latter rise was not accompanied by toxic symptoms and the temperature gradually fell to normal in the course of the next ten days. The change in the mental condition was remarkable. The patient, who previously had had to be tied in bed owing to delirium, was sitting up within six hours of the injection and asking for food; he slept well the next night and from that time improved in every way, eventually being invalided to India as a walking case three weeks later. Encouraged by the apparent success in this case, the authors tried the method in twenty-four other cases of influenzal pneumonia, selecting always those patients whose condition was apparently hopeless. Of the total of twenty-five cases, thirteen patients recovered and twelve died, a mortality of 48 per cent. Of the twelve who died, nine showed no visable effect for either good or ill. In three there was a temperary improvement. One patient died within five hours of the infusion, during a rigor. One patient had four injections at intervals of from three to five days without any sign of gas embolism, nor were there any signs of such embolism postmortem.

Medical Journal of Australia, Sydney

Jan. 17, 1920, **1**, No. 3

Application of Military Surgery to Civil Practice. C. G. Shaw.—p. 49.
Significance of the Complement Deviation (Wassermann) Test for Syphilis. F. Tidswell.—p. 56.

Jan 24, 1920, **1**, No. 4

*Hydatid Infestation of Bone: Multilocular Hydatid Disease and Ordinary Hydatid Cysts. C. W. Corlette.—p. 73.
Case of Xanthoma Diabeticorum. R. E. Harrold.—p. 84.

Multilocular Hydatid Disease of Bone.—Following several traumatic injuries of the right thigh sustained many years ago, Corlette's patient noticed the appearance of a small swelling in the groin, and a larger swelling below the inguinal ligament. The roentgen-ray appearance suggested a new growth. At operation this mass was found to be mixed with smaller and apparently granular material. The main cavity intercommunicated with other larger and smaller loculi around the upper part of the femur, and these again with other cavities passing up behind the iliac bone and through erosion holes and also via the obturator foramen into the pelvis and thence upward. There was a very large cavity extending up over the dorsum ilii. There was also an enormous ramifying cavity reaching from within the pelvis up along the general course of the psoas as high as the liver, but not invading the liver and not invading the kidney. The cavity was medial in relation to the kidney, and partially covered it. As for the bone, the right side of the pelvis was eroded everywhere, and its skeletal structure was reduced to a fretwork, or network, of thin bone. The acetabular cup had vanished, and with it had vanished the head of the femur. Through the perforation extended a large branch connecting the upper cavity with a cavity in the femur. The neck of the femur was tunneled by this, so that only the cortical part survived. In addition to the system of intercommunicating cavities on the right side, other separately encapsulated accumulations of the same material were discovered at the postmortem examination. One was a very large sac lying in the soft parts of the thigh, mainly posterior. It reached from the level of the upper end of the bone above nearly to the popliteal space below. Another was a sac between the spleen and the diaphragm, the top of the spleen forming its floor and the under surface of the diaphragm forming its roof. A multilocular hydatid of the right lung was also present.

Medical Journal of South Africa, Johannesburg

December, 1919, **15**, No. 5

Parasitized Kabeljaauw and Cape Salmon. W. W. Pitchford.—p. 101.
Venereal or Sexual Disease. C. Porter.—p. 104.
Tuberculous Meningitis and Lethargic Encephalitis. J. H. H. Pirie.—p. 109.

Journal of Tropical Medicine and Hygiene, London

Feb. 16, 1920, **23**, No. 4

Toxoplasma Pyrogenes Castellani, 1913. A. J. Chalmers and A. Kamer.—p. 45.
Occurrence of Lateral Spined Bilharzia Eggs (Schistosoma Mansoni) in Urine. J. W. S. Macfie.—p. 45.
*Etiology of Pellagra. A. Viswalingam.—p. 46.

Etiology of Pellagra.—From careful observation, Viswalingam is lead to conclude that faulty diet, in itself, cannot cause "pellagra" and that there is a superadded infection. If diet should be the sole factor, then the effected individual should improve and there should be no recurrence when he is removed to a hospital and placed on liberal diet. But this is not so; therefore, apart from diet, sunlight, etc., there must be some other factor, probably a toxin. The habits of the people, the poor dietary, the extremely insanitary surroundings in which they live, the initial gastro-intestinal troubles, the condition of chronic fibrosis seen in the organs drained by the portal circulation, and many other minor factors, Viswalingam says, favor the view that the infection must be through the alimentary canal. Whether the infecting agent is an organism which enters the gastro-intestinal system and produces a toxin which is absorbed into the system and produces the varied symptomalogy, or whether owing to a deficiency in the vitamins, some deleterious products are created in the intestines and give rise to an intoxication of the system, it is difficult to say at present. The seasonal recurrences of symptoms in patients removed from their surroundings and placed in a hospital with adequate diet for considerable periods of time, would point to the presence of an endotoxin resulting from the evolution of some organism or more probably the establishment of a vicious circle brought about by profound metabolic changes. Among predisposing causes are mentioned dysentery, ankylostomiasis, malaria and scurvy. Evidences of one or the other of those were present in at least 60 per cent. of the cases seen by the author.

Bulletin de l'Académie de Médecine, Paris

Feb. 3, 1920, **83**, No. 5

*Lethargic Encephalitis. P. Marie and Mestrezat.—p. 103; Idem. C. Achard.—p. 106; Idem; P. Remlinger.—p. 112.
*Influenza and Pneumonic Plague. C. Broquet.—p. 116.
The Fight Against Tuberculosis. Coubard.—p. 119.
*Operative Treatment of Empyema. P. Peugniez.—p. 122.

Lethargic Encephalitis.—Marie and Mestrezat report that in their six cases the cerebrospinal fluid was almost completely normal. The lymphocytes numbered only from 8 to 26. Netter, on the other hand, noted considerable lymphocytosis on repeated examination. In one of his three cases, the number was 14, 16, 84 and 30 in nineteen days; in another 56, 118, 16 and 9, and in a third, pronounced lymphocytosis at first was followed by 60 and 24 in five days. Achard comments on the wide differences in the clinical pictures now encountered. One man had been having fever for ten days, with headache, a little delirium at night, but no paralysis, somnolency or other symptom. The twelfth day the characteristic somnolency of lethargic encephalitis developed. He says, "La maladie est polymorphe et acyclique." The mental, motor and general phenomena, however, in their various forms and combinations cannot be fitted into any of the frames of classic pathology. Others spoke of the appearance of the disease in Africa and Japan. A resolution was adopted appealing to physicians to report to the Académie the cases of the disease as they encounter them, specifying the address of the patients and the probable date of the onset, in order to centralize the data.

Influenza and Pneumonic Plague.—Broquet was sent to Manchuria in 1911 to study the epidemic of plague, and he urges the necessity for applying in prophylaxis of influenza the whole series of measures found effectual in arresting the spread of plague. They should include protection of the face, disinfection, aeration, forbidding of public gatherings, quarantine in the ports, vaccination of arrivals, and serotherapy against the known germs (Pfeiffer, pneumococcus and streptococcus).

Operative Treatment of Empyema.—In Peugniez' case the chronic empyema had followed influenza, and it was treated by Delorme's decortication, removing the thick fibrous shell over the lung which had shrunk back against the spine. The lung expanded at once, and the empyema was cured, but radicular paralysis of the left brachial plexus followed. It gradually subsided, and not a trace was left by the second month.

Bulletins de la Société Médicale des Hôpitaux, Paris

Jan. 16, 1920, **44**, No. 2

*Ocular Manifestations of Botulism. De Saint-Martin.—p. 52.
*Diphtheric Paralysis with Meningeal Reaction. Du Camp and Carrieu.—p. 53.
*Blood Urea in Epileptics. H. Dufour and G. Semelaigne.—p. 58.
*Sugar by the Vein in Nephritis. F. Rathery and H. Boucheron.—p. 61.
Intratracheal Medication in Acute Bronchopneumonia. Rathery and Bonnard.—p. 63.
Pigmentation and Lichen Planus in Mouth as Signs of Suprarenal Insufficiency. Crouzon and Bouttier.—p. 67.
*Syphilitic Diabetes. Carnot and P. Harvier.—p. 71.
*Primary Typhoid Cholecystitis. A. Panayotatou.—p. 76.
Paralysis of Abdominogenital Nerves After Influenza. L. Moreau.—p. 81.

Ocular Manifestations of Botulinus Poisoning.—Four men developed the classic symptoms of botulism after eating from a can of smoked trout, and in addition they presented extreme and persisting congestion of the papilla and retina, with amblyopia. The optic nerve and retina lesions were still evident six months after, as also considerable contraction of the visual field for white and even more for other colors, but there was no scotoma or imperfect discrimination of colors. The asthenia also persisted exceptionally long. This and the torpor were so marked at first that the men could not leave their beds for almost three weeks. De Saint-Martin suggests that these comparatively severe and long persisting ophthalmoscope findings may aid in the differential diagnosis of botulism at the time and even months later.

Meningeal Reaction with Diphtheric Paralysis.—Ducamp and Carrieu found only 5 leukocytes per cubic millimeter in the cerebrospinal fluid in the case described, although there was up to 2.4 gm. of albumin, and also 6.9 gm. sodium chlorid.

Varying Urea Content of Blood in an Epileptic.—The epileptic seizures developed for the first time after several injections of neo-arsphenamin, but they returned after suspension of the drug. They came on at night. The urea content of the blood had been between 0.25 and 0.40 per liter at other times, but a few hours before the seizure it ran up to 0.84, dropping nearly to the former figure next day. The intervals between the seizures were long, so the phenomenon could be studied well in the young woman.

Sugar Infusion in Nephritis.—Rathery and Boucheron cite literature which confirms the value of injection by the vein of a 30 per cent. solution of glucose as an excellent means for stimulating diuresis in appropriate cases. In grave toxi-infectious conditions it has often proved extremely useful, but some recent experiences warn that this measure is distinctly contraindicated in chronic nephritis with azotemia. In three cases studied in detail no diuresis followed; the output of urine decreased, and the azotemia increased, all the symptoms becoming aggravated.

Syphilitic Diabetes.—Carnot and Harvier report a case of diabetes in a woman of 53 with neurosyphilis in which necropsy showed the entire pancreas transformed into sclerogummatous tissue. The urine had been abundant and contained from 66 to 72 gm. of sugar per liter after two years of the diabetic symptoms, a few days before death from pneumonia.

Primary Typhoid Cholecystitis.—Panayotatou relates that typhoid bacilli were cultivated from the pus in the gallbladder. There had been no symptoms from other organs or regions, and the fever had been of the cholecystitis type, not suggesting typhoid in any way, but the rapid and complete recovery after removal of the gallbladder confirms the causal connection. The case sustains the view that infection with the typhoid bacillus may induce other clinical pictures instead of the classic typhoid fever, analogous to the extrapulmonary manifestations of the pneumococcus.

Paris Médical

Jan. 24, 1920, **10**, No. 4

*Influenza Pandemics. J. Teissier.—p. 69.
*Mishaps with Arsphenamin. Emery and A. Morin.—p. 80.

Jan. 31, 1920, **10**, No. 5

Opening Lecture of Clinical Medicine Course. C. Achard.—p. 85.
Clinical Parasitology of Malaria. C. Paisseau and J. Hutinel.—p. 91.

Influenza Pandemics.—Teissier was sent to Russia in 1890 to study the pandemic of influenza, and his report in 1891 sums up equally well his conclusions from the recent visitation, namely, that some particular cosmic conditions suddenly enhanced the virulence of a pathogenic germ—probably some ordinary micro-organism—and this opened the portals to secondary infections. Only individual prophylaxis is effectual, with strict isolation of *les grippés*. He adds that although the cosmic conditions may enhance the virulence to a point beyond all means of defense, yet as a rule the malignancy is in ourselves. The exceptional mortality of the pregnant confirms this.

Mishaps with Arsphenamin.—Emery and Morin report a case in which the first injection of arsphenamin caused no disturbance, but forty-eight hours after a second injection, urticaria, joint pains and fever developed, as in serum sickness. The case stands midway, they say, between the major arsphenamin anaphylaxis (nitroid crises, serous apoplexy) and the minor manifestations (fleeting eruption and benign jaundice). These experiences suggest application of the principles of anti-anaphylaxis by preliminary injection of very small amounts before the main dose. They have been applying this method in a large number of cases, and say that although it conflicts with certain theories in vogue, yet the practical results are gratifying. Their method is to begin with 0.02 gm.; 0.03; 0.04; 0.05; 0.08; and 0.10 on successive days before beginning the course proper. Sicard has recently reported injection of daily doses of 0.3 gm. of neo-arsphenamin kept up for months, and none of the patients ever exhibited the slightest tendency to serious mishaps.

Presse Médicale, Paris

Jan. 31, 1920, **28**, No. 9

*Serotherapy in Typhoid. A. Rodet and S. Bonnamour.—p. 81.
*Estimation of Chlorids in the Serum. Rodillon.—p. 85.
The Schick Test for Susceptibility to Diphtheria. M. Nathan.—p. 86.

Serotherapy of Typhoid.—Rodet and Bonnamour applied serotherapy to 246 typhoid patients, with complicating influenza in some cases, and they state that benefit was apparent in every stage of the disease, but was most pronounced when started early. The fever and the other signs of toxic action were distinctly abated; complications were warded off, and the mortality reduced. They were unable to give baths in their service, and the serotherapy effectually took the place of hydrotherapy. They add that the antiserum is harmless and there are no contraindications. It should be given at the first suspicion of typhoid, without waiting for bacteriologic confirmation. They injected it subcutaneously; exceptionally, by the vein, and would not hesitate to inject it intraspinally in typhoid meningitis. They wait forty-eight hours after the first injection, and still longer if the fever is going down. If it keeps high, or runs up again, they give a second injection at once and repeat after forty-eight hours. The dose of 15 c.c. seems the optimum; no better results were obtained with larger doses, and less than this is ineffectual. The mortality was 4.7 per cent. in the civilian service and 5 per cent. in the military until influenza appeared. After that the figures were 12.4 and 7.6, respectively.

Chlorids in the Blood.—Rodillon expatiates on the importance of determination of the chlorids in the blood as an

index of conditions in the kidneys. He commends as far superior to all other methods the Moog technic followed by the Charpentier-Volhard technics as very reliable and rapid. Exactly 11.7 c.c. of the filtrate after treating the serum with an equal volume of a 20 per cent. aqueous solution of trichloracetic acid, is mixed with 10 c.c. of tenth-normal solution of silver nitrate and 50 or 60 c.c. of distilled water, and 10 c.c. of a saturated solution of ammonioferric alum. Then a tenth-normal solution of ammonium sulphocyanid is added from a graduated buret, agitating constantly, until a persisting red tint appears. The chlorid content in grams per liter serum equals the number of cubic centimeters of the sulphocyanid used.

Progrès Médical, Paris

Jan. 17, 1920, **35**, No. 3

*Traumatic Suprapubic Hematoma. F. Cathelin.—p. 23.
Signs of Ulcer of Lesser Curvature of the Stomach. Loeper.—p. 25.
Tentative Chemotherapy in Tuberculosis. G. Salles.—p. 28.

Hematoma from Horseback Riding.—Cathelin remarks that unless one thinks of the possibility of a lesion of this kind, the differential diagnosis is difficult. The strain on the muscle occurs when vaulting on the horse. The pain gradually increases, and a large tumor develops behind the rectus abdominis. The hematoma subsides in a week or two under strict bed rest, with a compressing bandage and application of moist heat. In the eight cases described, the patients were all new recruits being trained for the cavalry.

Jan. 25, 1920, **35**, No. 4

Operative Treatment of Pott's Disease. P. Barbarin.—p. 35.
*The Leukocyte Reactions. M. Loeper.—p. 37.
Concussion of Cervical Spinal Cord. A. Barbé.—p. 40.

The Leukocyte Reactions.—Loeper presents the prevailing assumptions on the nature and functions of the leukocytes, and mentions a number of personal experiments. In normal rabbits, for example, after injection of epinephrin, the polynuclears show a slight increase while the mononuclears decline. In a previously vaccinated rabbit, however, a similar injection causes the polynuclears to drop while the mononuclears run up to over 15,000. This type of cell seems to share essentially in the production of antibodies, and increasing numbers presage recovery and immunity. The leukocytosis induced by the fixation abscess (from subcutaneous injection of 1 c.c. of oil of turpentine) proved very useful during the influenza epidemic. He adds that some quite remarkable instances of its efficacy here have been published.

Schweizerische medizinische Wochenschrift, Basel

Jan. 22, 1920, **50**, No. 4

*Influenza and Pregnancy. O. Beuttner and Vullièty.—p. 61.
*The Gastric Mucosa with Ulcer. E. Fricker.—p. 63.
Improvised Devices for Mechanical and Hot Air Treatment. Von Neergaard.—p. 68.

Influence of Influenza on Pregnancy and Childbirth.—Beuttner and Vullièty state that 23.3 per cent. died of forty-seven pregnant or parturient women with influenza in their service. The mortality was highest in the cases in which the influenza arrested the pregnancy, abortion or premature delivery following the onset of the influenza. The younger age, and the first pregnancy, seemed to offer the greater dangers. When influenza developed postpartum, it ran a mild and uncomplicated course, probably owing to the hyperleukocytosis which is the rule in parturients. If this assumption proves to be correct, it suggests that the serum of parturients might possibly be used in treatment of influenza. The death rate among the prematurely born was 60 per cent. and 13 per cent. of those delivered at term, showing the noxious influence of the bacterial toxins on the fetus. The practical conclusions from these experiences are to ward off interruption of the pregnancy and, in treatment of the influenza, to refrain from quinin and other drugs liable to stimulate the uterus to contract. The gynecologist should warn pregnant women to keep away from sources of contagion, and perhaps it might be wise to advise women not to become pregnant during a period of epidemic influenza, "although," the writers add, "this advice may elicit yelps of indignation from many persons."

The Gastric Mucosa with Ulcer.—Fricker reproduces four photomicrographs of the true pathologic anatomic findings which are the rule with ulcer. The mucosa shows a chronic inflammatory atrophy much more regularly than hitherto assumed. This imposes the necessity for careful and prolonged supervision of the diet after operative measures. In one case of chronically recurring peptic ulcer in a robust man of 43, the mucosa showed extreme hyperemia, and stasis hemorrhages were common, but there was no thrombosis or embolism and no signs of bacterial invasion. His micrographs were all obtained from the living mucosa, while previous research in this line has been on the cadaver or on animals. One conclusion is evident, namely, that more than one cause may induce peptic gastric ulcer.

Gazzetta degli Ospedali e delle Cliniche, Milan

Nov. 30, 1919, **40**, No. 96

Necessity for Propaganda Against Tuberculosis. C. Molon.—p. 1041.
*Atypical Epidemic Meningitis; Two Cases. G. Salvetti.—p. 1043.

Atypical Epidemic Meningitis.—In Salvetti's two cases the onset was insidious, suggesting ordinary influenza at first. There was no vomiting, and the mind was clear throughout except just before death in one case. The temperature was always relatively low, and the lumbar puncture fluid seemed to be normal except for slight turbidity only at the first or second puncture, but the meningococcus was cultivated from the fluid in both cases. The fatal outcome in one case was a surprise after the extremely mild course in both.

Policlinico, Rome

Jan. 5, 1920, **27**, No. 1

*The Facial Nerve in Epileptics. L. Roncoroni.—p. 3.
*Malarial Orchitis. E. Vecchia.—p. 6.
*Tuberculosis in Relation to Life Insurance. I. Romanelli.—p. 9.

The Facial Nerve in Epileptics.—Roncoroni calls attention to the hyposthenia of the innervation of the face in certain persons, saying that he has found it most pronounced in epileptics. Hyposthenia in other nerves may explain certain phenomena observed in other conditions, he suggests.

Malarial Orchitis.—Vecchia's patient was a youth of 16 with a history of old malaria, but no attacks for a year. Then suddenly intense fever and chills developed, with pain in the scrotum. Gonorrhea or mumps were suspected until the malaria parasite was cultivated from the blood, and under quinin the orchitis and the febrile attacks subsided.

Tuberculosis in Relation to Life Insurance.—Romanelli analyzes May's recent report on this subject, and compares the conclusions with his own experience, which suggests the advantage of postponing acceptance of a candidate who has recently had a tuberculous process in a bone or joint, in the urinary apparatus or peritoneum. In 75 per cent. of his cases, when pulmonary tuberculosis developed later the interval was not over three years. With a clinically cured pulmonary lesion, he warns that there may be still fire under the ashes, and a trauma or infectious disease may fan it into a flame. This occurred in many cases during the influenza epidemic. A ten year interval, however, is a good guarantee, other things being equal, with a progressively decreasing extra risk premium.

Riforma Medica, Naples

Nov. 15, 1919, **35**, No. 46

Chaulmoogra Oil. A. Valenti.—p. 994.
*Ataxia of the Aorta. O. Cantelli.—p. 995.
*The Metabolism in Nephritis. A. Barlocco.—p. 1003.

Remittent Ataxia of the Ascending Aorta.—Cantelli applies this term to a set of symptoms observed identical in three cases. The symptoms were directly connected with transient disturbances in the innervation of the ascending aorta, the clinical picture being that of an aneurysmatic dilation of the ascending aorta: systolic fremitus, and harsh systolic murmur, heard in the second right interspace and spreading along the vessels, and a protodiastolic murmur of endoventricular origin, spreading to the apex, loudest at the focus for auscultation of the aorta. The assumption that the whole syndrome was of nervous, functional origin was con-

firmed by the abrupt subsidence of all the symptoms after a longer or shorter interval, and independently of any medicinal treatment. This behavior of the ascending aorta, especially when accompanied by symptoms resembling those of angina pectoris, bears the imprint of a sympathetic neurosis of that part of the vessel, in the same way as the attack of pain in the celiac plexus and pulsation and ectasia of the abdominal aorta represent the principal manifestations of the sympathetic neurosis of this part of the body. His patients were a woman of 42 and two men of 60 and 34. In the woman the attacks had always occurred just before the menses, and there were other signs of vasomotor instability, tremor and tachycardia. The older man was a bon vivant, with some sclerosis of the myocardium, and only the complete subsidence of all the symptoms in two months and the return later of the whole syndrome, excluded actual aneurysm. The man of 34 had long had a mild syphilitic aortitis when suddenly the symptoms of ectasia of the aorta developed, with the other signs described above, but all disappeared in twenty days without leaving a trace, after absolute repose was enforced, with a suitable diet. Cantelli devotes nearly nine pages to discussion of the mechanism, emphasizing anew in conclusion that the ataxia subsided in all his cases without any drugs.

Metabolism in Nephritis.—Barlocco reviews what others have been doing in study of the intermediate and external metabolism by Bang's micromethods applied to the blood. He compares with their results his own findings in a number of healthy controls, and in ten patients with nephritis studied daily till death. With sound kidneys the total nitrogen in the blood ranged from 0.027 to 0.046 per cent. and the urea nitrogen from 0.013 to 0.027 per cent. The ratio between the two, dividing the urea nitrogen by the total nitrogen, was between 35 and 60 per cent. The ureosecretory constant ranged from 0.062 to 0.106. In health, 15 gm. of urea, added to an ordinary diet, is eliminated in twenty-four hours. The chlorids in the blood amount to 3.20 or 3.80 per cent. and the glucose to 0.075 or 0.120 per cent. The differences between these figures and those obtained in his numerous cases of various forms of nephritis are discussed, as they serve to distinguish the different types. They emphasize the folly of attempting to study a case of nephritis from the whole blood or the urine alone.

Rivista Critica di Clinica Medica, Florence

Sept. 27, 1919, **20**, No. 39

*Conjugated Deviation of Head and Eyes in Brain Disease. L. Siciliano.—p. 457.
General Principles of Diet in Nephritis. Fornaseri.—p. 460.
Erythema Nodosum in Relation to Tuberculosis. Pisani.—p. 463.
Enlargement of Glands as Aid in Diagnosis. Fornaseri.—p. 465.

Deviation of Head and Eyes in Brain Disease.—Siciliano's arguments favor Flourens' explanation of the mechanism for this in the semicircular canals.

Gaceta Médica de Caracas

Nov. 30, 1920, **26**, No. 22

*Phlegmasia Alba Dolens in Typhoid. Villegas Ruiz.—p. 235.

Phlebitis in Typhoid.—Villegas described two cases of phlegmasia alba dolens which developed during convalescence from typhoid, the only instances of the kind he has encountered in his thirty-two years of practice and his hundreds of typhoid cases. The left thigh was affected, and in Murchison's fifteen cases the phlegmasia was on the left side in fourteen. In the discussion that followed, four other physicians referred to a total of seven cases in their practice. Villegas mentioned also phlegmasia of other origin; he has encountered a comparatively large number of puerperal cases. In certain other cases the phlegmasia was the warning sign of visceral cancer. In one case he accepted the phlegmasia alba dolens as pathognomonic of a cancer of the liver while other consultants insisted that the trouble was hypertrophic cirrhosis of the liver, but time confirmed his diagnosis. Trousseau diagnosed in himself the gastric cancer, to which he succumbed later, by the appearance of an insidious phlebitis in the dorsum of one hand. In treatment Villegas has found electric light baths useful, but absolute immobility of the limb is the main thing. Tachycardia often occurs with the phlegmasia, and in Razetti's case the tachycardia persisted long afterward and the young woman finally died suddenly, possibly from embolism.

Prensa Médica Argentina, Buenos Aires

Jan. 10, 1920, **6**, No. 22

*Rupture of Bladder. A. F. Celesia and A. Buzzi.—p. 225.
*Vicious Circle after Gastro-Enterostomy. N. Tagliavacche.—p. 226.
*Dissociated Elimination of Bile Elements. C. P. Waldorp.—p. 227.
Improved Slanting Curet. E. Finochietto.—p. 230.
*Arrhythmias. P. M. Barlaro.—p. 231. Conc'n.

Rupture of the Bladder.—The two cases reported by Celesia and Buzzi were admitted to the hospital within twenty-four hours. The posterior wall of the bladder had ruptured in each case, in one from a fall, in the other probably in consequence of overdistention from fluid, self-injected, in treatment of acute gonorrhea. In this latter case no urine could be extracted with the catheter in the bladder, but in the other case the catheter had evidently found its way through the breach in the wall into the peritoneum, and quantities of blood-stained urine were evacuated. The shock and tenesmus were extreme in both, but a prompt laparotomy was followed by recovery.

Vicious Circle After Gastro-Enterostomy.—The man of 42 had had periods of gastric disturbance since the age of 20, and he finally had gastro-enterostomy done. This was followed by a period of tranquillity for seventeen months, when the disturbances began anew. An anastomosis between the afferent and efferent loops arrested the vicious circle, but a peptic ulcer with involvement of glands was deemed inoperable. The afferent loop was 30 cm. long, and the opening was not at the lowest point of the stomach and was too far to the left. Another defective feature of the technic was that the anastomosis ran from left to right.

Dissociated Elimination of Elements of the Bile.—Waldorp classifies the different forms of jaundice from complete or partial retention of all the elements of the bile and the jaundice with isolated retention of bile pigments or of bile salts. Hemolytic jaundice is the perfect type of the latter group, but it includes also catarrhal jaundice in the active stage, and some cases of jaundice from cirrhosis, or from infectious or toxic disease of the liver; it may possibly include likewise the early phases of the other group. With alcoholic cirrhosis there may be no sign of toxic retention as manifested by pruritus and bradycardia but the blood dust is scanty, and the Hay and Pettenkofer reactions are usually positive. Intercurrent infection or abuse of alcohol or other toxic action is liable to induce a phase of exaggerated retention and hence augment the jaundice temporarily. Brault and Garban investigated for retention of bile in long series of patients, and found it in some persons who gave no evidence of jaundice but had tuberculous, malarial or other form of liver disease. In typhoid also there may be retention of bile salts, with urobilinuria, as also in pneumonia in male adults, and in all persons with chronic poisoning from any cause. Brulé warns that retention of bile elements with appendicitis suggests that the liver is vulnerable, and hence should not be subjected to the strain of chloroform. The bile salts are also liable to be retained during pregnancy, the retention increasing as the pregnancy progresses, and ceasing after delivery.

The Arrhythmias.—Barlaro entitles his article a "brief" study of the arrhythmias, but it has been continued through a long number of issues. He recalls that treatment must be based on the special form of the arrhythmia and on the occasional cause. To illustrate the imperative necessity for seeking the cause he tells of a case in which an attack of fainting, palpitations, arrhythmia and bradycardia resisted the entire battery of heart tonics and stimulants but subsided promptly under a purge and restriction to water, a dish of green peas being responsible for the whole disturbance. In one woman the diagnosis of myocarditis as responsible for the arrhythmia was changed later to arrhythmia from impacted gallstones, and extraction of the stones put an end

at once to the arrhythmia. Besides removing the cause and treating stomach, bowel and gynecologic disease which may be a contributing factor, it may be wise to soothe the over-excitable nervous system and give tonics. Valerian and belladonna are often useful, the latter reducing reflex action from the stomach, the most frequent cause of extrasystolic arrhythmias, while it moderates the excitability of the heart. Heart tonics are liable to exaggerate the arrhythmia, but in paroxysmal tachycardia, digitalis well managed may give fine results, as also strophanthin with pulsus alternans and perpetual arrhythmia. Organ extracts may prove surprisingly effectual in appropriate cases, and antithyroid serum with hyperthyroidism. If the dropping of tea, coffee or tobacco is not soon followed by improvement, the cause must be sought elsewhere. Brilliant cures may be realized with mercury and iodid when syphilis is responsible, and the latter drug may render good service with sclerosis in vessels or elsewhere. In some cases tuberculin may prove extremely useful. With paroxysmal arrhythmia, drinking or eating something may help in arresting an attack, by the reflex from swallowing; or compression of the pneumogastric nerve may stimulate it to inhibit the excessive action of the heart. Tickling the pharynx or other means to induce nausea and vomiting may arrest the attack in some persons; in others this may aggravate it. The condition of the heart muscle must be supervised, and venesection, revulsion, purges, and diuretics applied as indicated.

Reforma Médica, Lima

October, 1919, **5**, No. 62

*Treatment of Eclampsia. P. Villanueva.—p. 116.

Eclampsia.—Villanueva as a last resort in a case of convulsions from uremia in a man of twenty-eight with advanced chronic nephritis, injected sodium bicarbonate by the vein. The result was surprisingly good, the convulsions subsiding, and the acute phase was soon past. He applied this same treatment in a case of puerperal eclampsia in which the convulsions and anuria had kept up after venesection and evacuation of the uterus. Four hours later the convulsions abated, the catheter drew 150 gm. of urine, and the general condition seemed more hopeful, showing that at least the 50 gm. of the saturated solution of sodium bicarbonate by the vein had done no harm. He repeated the infusion, giving 100 gm., and applied lumbar puncture. By the next morning the patient was out of danger. This experience has been confirmed in eleven other cases in the last five years, prompt improvement following the combination of venesection, lumbar puncture and the alkaline infusion, with copious intake of fluids. He urges others with laboratory equipment to confirm his merely clinical assumption that acidosis is responsible for eclampsia, at least in certain cases.

Revista Española de Obstet. y Ginecología, Madrid

December, 1919, **4**, No. 48

*The Placenta as Blood-Producing Organ. P. Domingo.—p. 545.

The Placenta as a Blood-Producing Organ.—Domingo reports extensive research on the early stages of the evolution of the embryo, the origin of the first blood cells, etc. His conclusions differ in certain respects from those hitherto accepted.

Siglo Médico, Madrid

Dec. 27, 1919, **66**, No. 3446

Repeated Laparotomy. A. Morales.—p. 1114.
*Essential Incontinence of Urine. F. González Aguilar.—p. 1116. Concluded in No. 3449, p. 37.

Incontinence of Urine.—González reiterates that thorough study of the child will almost invariably reveal some explanation for the enuresis in some hitherto overlooked disease or some anomaly that may possibly be corrected. Only when all such can be positively excluded are we justified in labeling the case as essential incontinence. Treatment should aim to reduce the irritability of the bladder or stimulate the atony of the sphincter, according to the case. The diet should be extremely nourishing and digestible, and of the smallest bulk possible. Overstarched or overtight clothing, powdering, and dirt may maintain the tendency to incontinence. In two of his cases it was cured by constant vigilance rendering masturbation impossible. He lauds epidural injection of physiologic artificial serum as one of the most valuable measures in treatment of enuresis, and never hesitates to apply it when belladonna, strychnin and electricity fail. Any practitioner, he says, can give the epidural injections, using from 5 to 10 c.c.; for children under 12 not more than 3 c.c. Inunction in the pubic region twice a day of a drug to soothe the peripheral nervous system has sometimes aided. Courtade has reported 55 per cent. cured and 85 per cent. much improved by the induced electric current, but González advises reducing the intermittences to one a second. This stimulates instead of fatiguing the muscles, and he always is guided by the patient's tolerance. He applies the electricity for five or six minutes every day at first, and later every second or third week. In concluding his long study of incontinence, he mentions Bounier's success in otherwise intractable cases by modifying the excitability of the bulb by cauterizing certain portions of the nasal mucosa.

Berliner klinische Wochenschrift, Berlin

Nov. 17, 1919, **56**, No. 46

What the Influenza Epidemic Has Taught Us. B. Möllers.—p. 1081.
*The Capillary Pulse in Infectious Diseases. L. Lichtwitz.—p. 1083.
*Use of Orthoform in Psychiatric Cases. W. Böttcher.—p. 1084.
Friedmann's Treatment of Tuberculosis. E. Blos.—p. 1084.
Relations of the Autonomic Nervous System to Striated Muscles. E. Frank.—p. 1090. Conc'n.

The Capillary Pulse in Infectious Diseases.—From a series of observations Lichtwitz reaches the conclusion that the capillary pulse in fever is not the result of increased heart activity, elevated temperature, or rubedo, but is due to a disturbance of peripheral circulation in the region of its appearance brought about by a toxic injury of the arterioles and capillaries. He was not able to discover that the phenomenon has any prognostic significance.

The Use of Orthoform in Psychiatric Cases.—Böttcher has found orthoform of great value to allay itching in pruritus vulvae et vaginae in psychiatric cases. He uses ordinarily a 10 per cent. ointment. The anesthetic effect of the orthoform continues for from ten to thirty hours, which is a valuable feature in dealing with psychiatric patients, who become impatient and work harm to themselves if the itching is not promptly allayed.

Deutsche medizinische Wochenschrift, Berlin

Nov. 27, 1919, **45**, No. 48

*Problems in Paralysis and Tabes Therapy. F. Plaut.—p. 1324.
*The Pathogenesis and Treatment of Bed-Sores. Wieting.—p. 1324.
Side-Effects of Silver Salvarsan. G. L. Dreyfus.—p. 1326. Conc'n.
*Influenza and Pregnancy. E. J. Schmitz.—p. 1328.
*Scleroderma in Relation to the Endocrine Glands. W. Roesch.—p. 1329.
Experimental Tuberculosis of the Eye and Active Immunization by the Friedmann Method. F. P. Krusius.—p. 1330.
"Nirvanol" Poisoning. Charlotte Jacob.—p. 1331.
Mites in the Feces of Man. H. Westphalen.—p. 1333.
*Emphysema Therapy. Heermann.—p. 1333.

Recent Problems in Paralysis and Tabes Therapy.—Plaut says that the fact that familial paralysis and tabes are comparatively rare is opposed to the assumption of a peculiar type of spirochete the mere presence of which in a subject would cause syphilitic paralysis or tabes. The changes that regularly occur in the spinal fluid during the secondary stage of syphilis are usually followed by normal conditions, whether specific treatment is given or not, so that it hardly seems likely that these changes are to be regarded as the foundation for the later development of paralysis or tabes. In the case of a few syphilitics, however, the spinal fluid continues to show pathologic changes even after many years. Whether the paralytics develop from this class can only be shown by a long series of investigations. He avoids mercury entirely in the treatment of paralysis, and for the treatment of tabes he prefers salvarsan to mercury. Salvarsan is ordinarily not indicated in syphilitic paralysis, as it does not stay the progress of the disease, but, he thinks, it may be well to use it in the initial stages owing to the danger of a false diagnosis of paralysis being made when in reality

it is a genuine case of syphilis of the brain. He denies that salvarsan used in syphilitic paralysis causes paralytic attacks, untoward mental and physical reactions, and even symptoms resulting in death. One symptom of paralysis usually yields to salvarsan, that is, the increase in the number of cells in the spinal fluid. Intraspinal injections in syphilitic paralysis have not proved effectual, he continues. In tabes, however, intraspinal injections exert a favorable influence on the pain, the crises, paresthesia, bladder trouble and ataxia, and should be used unless intravenous therapy, which should always be tried first, has already brought about reasonable symptomatic improvement. Whether intraspinal mercurial treatment will prove efficacious in paralysis and tabes remains to be seen. The fact that paralytics often receive at least temporary benefit from induced febrile processes has long been known, and of late Vienna physicians have scored considerable success in this mode of treatment. Plaut has seen no noteworthy improvement following the use of vaccines in syphilitic paralysis and, in general, the results of the various forms of treatment in paralysis and tabes are far from satisfactory, but with earnest collaboration of clinicians, experimental pathologists, anatomists, serologists and chemists, he hopes for progress in the future.

The Pathogenesis and Treatment of Bed Sores.—The matter of bed sores has been left too much to nurses, Wieting thinks, and many physicians are inclined to assume an indifferent attitude, from which great harm results. His investigations as to the fundamental origin of bed sores have led him to the conclusion that the pressure causing the necrosis or gangrene is exerted from within and not from without, as is commonly supposed. Aside from cases in which the epidermis or cutis has been injured directly by thermic, chemical or mechanical causes, only disturbances of the blood supply can bring about necrosis of the skin, and these disturbances are caused by the more or less complete occlusion of blood vessels by pressure continued too long in one spot, whereby an anemic condition of the more sensitive subcutaneous and deeper-lying tissues is effected. It is evident, therefore, that the subcutaneous tissues suffer more and earlier than the skin; their necrosis precedes that of the skin. While admitting that there are cases in which decubitus cannot be avoided even with the best of care, he believes that many cases that occur are avoidable. Besides the ordinary measures—such as change of position, absolute cleanliness, rubbing with alcohol, the use of rubber rings, water cushions, underlay of cotton—he thinks more recognition should be given to the continuous water bath in the more serious cases. The patient may be suspended for hours at a time in a warm bath, in which he is supported by a bed sheet or a hammock. Frequently suspension apparatus may be indicated, as in the case of wounds of the heel or the lower leg. In the matter of bed sores hypurgia plays a big part, that is, the sum of the minor factors that make for prophylaxis and recovery. Even the placing of a rubber ring cushion so that the pressure will be taken off a certain spot is not such a simple matter as it may seem to some.

The Effect of Influenza on Pregnancy.—Schmitz reports that in Germany it was often noted with surprise that the strongest persons seemed to have no more, but perhaps even less, resistance than the weaker. He takes this as only an indication how primitive our ideas are concerning the meaning of the term "constitution." We are too much inclined to assume that a sturdy frame and a well developed musculature must necessarily presuppose extra resistance of the organism to infection. Our knowledge of individual differences in matters of morphology, the ability of cells to react, and the ever changing content of protective substances in the body fluids is still too indefinite for us to do more than speculate in regard to comparative immunity. An illustration of this is Fischer's assumption that sturdy persons have too many antibodies, and that their lack of resistance is due to the fact that they kill off the invading germs too rapidly, and thereby overload the body with liberated toxins, or Grabisch's hypothesis that healthy persons have less capacity to produce antibodies because they are, in the nature of the case, less exposed to infections. On the other hand, the effect of pregnancy on the course of influenza is not a matter of speculation. It is entirely too evident. Of thirty-seven pregnant women in his service, nearly 46 per cent., died. The mortality among the nonpregnant was only 12.5 per cent. Aside from the changes in the respiratory mechanism and the impeding of the circulation, Schmitz thinks that one possible explanation of the unfavorable effect of pregnancy on influenza lies in the physiologic swelling in pregnancy of the mucous membrane of the respiratory organs.

Scleroderma in Relation to Disease of Endocrine Glands.—Roesch reports a case of generalized scleroderma, in the indurated stage, in a young woman with symptoms of abnormal thyroid and suprarenal functioning. He concludes therefrom that scleroderma may possibly be caused by disturbances of function in one or more of the glands of internal secretion.

Treatment of Emphysema.—Heermann recommends, as an effective therapeutic device in emphysema, an elastic rubber bandage, from 4 to 5 cm. wide, buckled about the chest at the level of the short ribs. He finds it aids expiratory movements and produces a feeling of comfort and relief. It is worn during the day—continuously, if possible. The good effect is soon shown by the increase in lung expansion and the remission of symptoms in the lungs and throat.

Münchener medizinische Wochenschrift, Munich

Nov. 14, 1919, **66**, No. 46

*Chronic Lethargic Encephalitis. C. von Economo.—p. 1311.
*Effect of Roentgenotherapy on Retarded Growth. E. Stettner.—p. 1314.
Deep Thermometry. I. B. Zondek.—p. 1315.
Conditions Governing the Course of Tuberculosis. H. von Hayek. —p. 1316. Cont'n.
*Influenza in Relation to Pulmonary Tuberculosis. W. Amelung. —p. 1321.
Chronic Appendicitis and Pathologic Condition of Adnexa. M. Graefe. —p. 1322.
*Utilization of Surplus Human Milk. Marie Kayser.—p. 1323.
Concentration of Rays in Heliotherapy. C. Widmer.—p. 1323.
*Composition of the Blood in Arid Climates. A. Bickel et al.—p. 1324.

Chronic Lethargic Encephalitis.—Economo reports a case of lethargic encephalitis in a man of 45, which ran a long course, from April 5, 1917, to Jan. 7, 1919, when death ensued. The onset was acute. Periods of remission occurred, only to be followed by ever more violent attacks. The clinical diagnosis was pseudobulbar paralysis, with athetosis, following lethargic encephalitis. The necropsy findings were: hypostatic pneumonia in the right inferior lobe, atrophy of organs, parenchymatous degeneration of the myocardium, cachexia, no macroscopic changes in the central nervous system. The microscopic examination revealed extensive evidence of a poliencephalitis. In addition to the older lesions, there were several recent lesions of an acute type. Economo assumes that the virus of lethargic encephalitis after the first acute attack was not completely eliminated but continued to act on the central nervous system, setting up a chronic condition, with occasional exacerbations, carrying on its gradual work of destruction resulting in death. He compares the case to the rare cases of chronic anterior poliomyelitis following the acute form. It also seems to throw a sidelight on multiple sclerosis. Economo refers also to a mild epidemic of lethargic encephalitis that occurred in Vienna nearly two years before the first wave of the influenza epidemic, which, he thinks, supports the idea that it is a distinct disease, and refutes the claim that it only follows influenza. It would be a serious mistake to term the disease influenzal encephalitis as its causal connection with influenza is still uncertain.

Favorable Effect of Roentgenotherapy on Retarded Growth.—Stettner states that in cases of retarded growth due to disease such as chronic parotitis, or to constitutional anomalies such as status lymphaticus, he has been able, within a few months, to make up for a deficiency equal to several years of normal growth. In the two reported cases the retarded growth manifested itself in the lack of ossification centers; in one the bones had developed normally in length. In both cases the incited growth was accomplished by means of roentgenotherapy applied to the head, and doubtless particularly affecting the hypophysis in one case. The condition

of the bones of a child as shown by roentgenograms is a factor to be weighed in judging of the child's general condition. Stettner considers his results important as indicating the possible effect of roentgen rays on the organs of internal secretion. Three and five sittings were given in the course of four months and seven months, respectively.

Influenza in Relation to Pulmonary Tuberculosis.—Amelung's observations and investigations lead him to conclude that the influenza morbidity among patients with pulmonary tuberculosis is slight; that influenza takes a milder course in such patients than in the nontuberculous, unless the tuberculosis is far advanced; that tuberculosis of the lung may and sometimes does follow influenza in patients whose lungs were previously sound, and that in the last mentioned cases the prognosis is relatively bad. A theoretical explanation of the reciprocal relationship that exists between influenza and tuberculosis may be that the organism of tuberculous patients is from the start in a state of defense, whereas the healthy subject is taken unawares in a state of unpreparedness, and is swept away before he can mobilize his antibodies.

Utilization of Surplus Human Milk.—Marie Kayser describes in detail a system introduced in Magdeburg during the war by which surplus human milk was collected in the homes and utilized in hospitals and elsewhere for feeding to weakly and needy infants. The milk of healthy mothers, only, was used. In the nature of the case, Wassermann tests could not be made, but as the milk was always carefully boiled before it was used, it was assumed that infection was no longer to be feared. Boiling lessened the value of the milk so collected, but it was in any event better than boiled cow's milk for the infants for whom it was utilized.

The Composition of the Blood in Arid Climates.—Bickel, Loewy and Wohlgemuth refer to Grober's article on this subject, an abstract of which appeared in THE JOURNAL, Jan. 31, 1920, p. 365. From his examination of the blood of natives of Tunis, Grober had reached the conclusion that such a thing as urinary substances being given off from the blood in secretions, for instance, through the sweat glands, was an impossibility. Bickel and his co-workers state that Grober's conclusion was not justified. The fact that the blood of natives of Tunis is essentially the same in its composition as that of Europeans living in Europe is no proof, they think, as to whether or not the arid climate has any effect on the blood, much less that it may not exert a definite effect on metabolism which is concealed by compensatory processes in the blood. For example, it might well be true that marked changes occur in the sodium chlorid output and in the nitrogenous waste eliminated from the blood, while the blood still retained its usual percentage of these substances. Furthermore, there might be marked shifting in the proportionate amount of urinary substances eliminated by the kidneys and the skin, without evidence of this fact being necessarily present in the blood. In order to decide such questions as these, concurrent investigations on metabolism should be made; quantitative determinations of the elements of the urine, and also determinations of the amount and composition of the skin exudations, with due consideration of the nature of the food consumed. They also think that Grober should have examined the blood of Europeans living in Tunis, in order to draw just conclusions as to the indications of arid climates for Europeans suffering from kidney disease.

Therapie der Gegenwart, Berlin

November, 1919, **60**, No. 11

*One-Sided Dietaries. M. Jacoby.—p. 401.
*Nonspecific Serotherapy of Diphtheria. M. Albrecht.—p. 404.
Quinin Alkaloids as Antiseptics. S. Ostrowski.—p. 407.
Testing the Eyes for Glasses. Fehr.—p. 416. Conc'n.
General Principles for Treatment of Digestive Diseases. G. Klemperer and L. Dünner.—p. 420.
*The Alcohol Question. J. Waldschmidt.—p. 425.
Syringe for Intravenous Injections. R. Offenbacher.—p. 437.
Treatment of Sprained Ankle. K. Gerson.—p. 438.

One-Sided Dietaries.—Jacoby remarks in concluding his study of this subject, that the terms vitamins, nutramins and accessory nutrients are about synonymous with each other, and with oryzanin. Eutonin seems to be the organic base which is the mother substance of the others.

Treatment of Diphtheria.—Albrecht suggests that Bingel's plea to use normal horse serum, instead of antitoxin, has served to focus attention anew on the great changes induced in the organism by serum alone. But it has served most of all to emphasize anew the immense value of antitoxin, and that nothing can approach it.

The Alcohol Question.—Waldschmidt agrees with those who think that some inherited predisposition turns the scale so that one person becomes an addict and another not. The drunkard is "born, not made." The sound brain repudiates the abuse of alcohol. From prehistoric times and in all races there have been stimulants of different kinds, and it seems as if the human race cannot get along without them, but the more dangerous ones, he insists, should be prohibited.

Therapeutische Monatshefte, Berlin

September, 1919, **33**, No. 9

*Pharmacology of the Treatment of Wounds. III. S. Loewe and G. Magnus.—p. 321. Conc'n.
By-Effects of Some New Narcotics. R. Meisner.—p. 332.
*Treatment of Fractures in the Aged. C. Heinemann.—p. 335.
Whooping Cough. A. Kötz.—p. 341.
*Acute Addison's Disease Following Influenza. Brünecke.—p. 354.

Treatment of Wounds.—Loewe and Magnus present a long series of arguments striving to restore a more pharmacologic view of the treatment of wounds, instead of the excessive bacteriologic view that has prevailed of late.

Fractures in the Aged.—Heinemann tabulates the details of twenty-two cases of fracture, mostly of the femur, in men and women from 61 to 78 years old. He affirms that the physician's task is more to keep the aged patient alive, than to cure the fracture. The patient must not be chained to the bed for more than a few days at most, consequently, a light plaster cast is preferable for immobilization. It should leave as much of the limb free as possible. When the fractured stumps have been driven into each other, a cast may sometimes be dispensed with; the patient can be got up with crutches or a walking frame. The getting the patient out of bed is the main thing, after the first shock is past. Lying in bed mechanically impedes the functioning of the autonomic system, and depresses the vital energies. In other pathologic conditions, the elderly can keep fairly well, even lying in bed, by exercising the legs and arms while reclining, but this is impossible with a fractured limb. Systematic breathing exercises, after the patient is up, help to maintain the circulation and ward off atrophy, and they benefit in other ways. Tepid baths under medical oversight are also useful. In his 22 cases a complete functional cure was realized in 11, and improvement in all the others, except in one fatal case of fat embolism. This patient, a woman of 62, had been long kept in bed after the lengthwise fracture of the femur. Only 7 have to use a cane, and 2 others, one or two crutches.

Acute Addison's Disease After Influenza.—Brünecke reports this case to call attention to the prompt benefit from treatment with partial antigens. Tuberculous lesions in the glands in the neck had suggested the advisability of this treatment for the girl of 12.

Wiener klinische Wochenschrift, Vienna

Nov. 27, 1919, **32**, No. 48

*Roentgen Treatment of Hypertrichosis. G. Holzknecht.—p. 1149.
*Treatment of Gunshot Wounds of Joints. H. Salzer.—p. 1151.
*Arthritis Due to Foreign Body. M. Hirsch.—p. 1154.
Multiple Laceration of the Sigmoid Sinus. O. Beck.—p. 1155.
Treatment of Old and Ulcerating Wounds. H. Deutsch.—p. 1157.
*Observations on Ophthalmomyiasis. W. Goldschmidt.—p. 1159.

Roentgen Treatment of Hypertrichosis.—Holzknecht discusses the psychologic reasons why hypertrichosis in women should be treated, and describes in detail his method of roentgenotherapy with which he has been very successful. In some of the cases he describes, the women had tried to commit suicide on account of the disfigurement from the growth of hair on the face.

Treatment of Gunshot Wounds of Joints.—Salzer states that since there is no uniform method of treating joint

injuries, it is desirable that surgeons should give the results of their experiences in this field of surgery in order that out of the common experience of all a uniform method may be gradually worked out. In gunshot injuries of joints in which the bones were not seriously involved and in which the wounds had closed without reaction, he proceeded as follows: The joint was punctured and the fluid was drained off; from 3 to 5 c.c. of tincture of iodin was then injected and a light protective bandage was applied. This procedure was repeated, if necessary, two or three times. In 14 cases of gunshot wounds of the knee joint treated in this manner the patients were dismissed in about twelve days, the joint showing a good degree of motility. In one case, however, suppuration developed, rendering an operation necessary. On the other hand, if the wounds were lacerated and oozing, thorough débridement was done, the joint was cleansed with sodium chlorid solution, then completely sutured and tincture of iodin injected. After about sixteen days 7 such cases were dismissed in good condition. In another case, however, sepsis and periarticular abscesses occurred, which necessitated amputation at the thigh. In this case, owing to the pressure of work at the front, through an oversight, débridement and suturing of the wound of entrance had not been done. A total of 40 joint wounds (38 knee joints, one elbow and one shoulder joint) came up for treatment. In 3 cases primary amputation was required; in the other 37 cases the simple method described above was employed. In 7 cases secondary amputation became necessary. The remaining 30 were dismissed with fairly movable joints. There were no deaths. The last fatal case resulting from a joint injury dated back to the time when, though tincture of iodin was employed, primary suturing of the wound was not undertaken. While admitting that the results were not ideal, Salzer maintains that they were at least much better than had been secured under the conservative treatment. An important advantage of this method was that the patients suffered much less pain.

Foreign Body Arthritis.—Hirsch reports a case of arthritis of twenty years' standing due to the presence of a fragment of a needle in the knee joint. In spite of the fact that the joint had been frequently swollen and painful, after the needle was removed complete recovery followed in four months. Hirsch concludes, therefore, that in any disease affecting the knee joint the presence of a foreign body should be given diagnostic consideration. In his case the arthritis had been first of the intermittent hydrops type and later of the spongy, granulation type. This latter aspect should suggest the possibility of a foreign body.

Ophthalmomyiasis.—Goldschmidt describes his experience with 100 cases of ophthalmomyiasis in a river region in Russian Turkestan, central Asia. In the summer of 1915 a prisoner of war presented himself complaining of a foreign body in the left eye. The eyelids were swollen and inflamed. Examination revealed living organisms in rapid motion spread over the surface of the conjunctiva. There were from eighteen to twenty of such yellowish white organisms of varying length (from 0.25 to 1.5 mm.). Most of the larvae were removed by rinsing out the eye. Some of them, however, had burrowed into the cornea, and had to be removed with a swab, which was only possible after cocain had caused them to loosen their hold. The patient developed, as a result, a keratitis with hypopyon, which healed leaving maculae and synechiae. The larvae were preserved in alcohol and were pronounced by Dr. Kuznetzoff, a Russian physician who had been practicing in the vicinity for a number of years, to be *Sarcophila magnifica Schineri* (*Wohlfarti*). Goldschmidt had occasion to remove similar larvae from the eye in 100 other cases and learned that this ophthalmomyiasis was not uncommon. He says that a fly in its flight will often scrape off from sixty to seventy larvae onto the eyelid. The larvae display a tendency to burrow into the eyeball, and have been known to destroy it completely within forty-eight hours. Or after weeks of suppuration the end-result is atrophy of the eyeball, which is permeated with scars. Kuznetzoff had not known of any fatal cases such as have been reported by others, resulting from pyemia and sepsis.

Zentralblatt für Chirurgie, Leipzig

Jan. 17, 1920, 47, No. 3

*Headache After Intraspinal Medication. G. Hosemann.—p. 49.
*Blocking the Splanchnic Nerves. A. Hoffmann.—p. 53.
*Sound for Stenosis of Esophagus. E. Borchers.—p. 54.

By-Effects with Spinal Anesthesia.—Hosemann explains that the persisting headache after spinal anesthesia should always be analyzed as it may be due to one of several causes. In 17 per cent. of his 100 cases it was explained by irritation, meningism; the fluid was always under high pressure, with high albumin and cell content. Treatment here is with repeated lumbar puncture, diuretics and purges. In the other 83 per cent. the fluid was under very low or negative pressure, and there was very little albumin or cell content. The above mentioned measures would only aggravate conditions here. Copious intake of fluid is required here, better by the vein than subcutaneously or by the rectum. This will cure the headache within a few hours while under other measures it is liable to persist for weeks.

Blocking the Splanchnic Nerves.—Hoffmann joins in the chorus of praise for Kappis' method of blocking the splanchnic nerves from the rear for abdominal surgery. (The technic was described in these columns, Feb. 21, 1920, p. 568.) He has been using it for nearly a year for all kinds of operations on the stomach, duodenum, bile ducts, etc. A weaker solution of procain answers the purpose, he says, and he advocates adding a little potassium sulphate: 0.5 parts procain; 20 parts of a 2 per cent. solution of potassium sulphate and enough of the 0.9 per cent. solution of sodium chlorid to make 100 parts, adding 12 drops of 1:1,000 epinephrin.

Dilation of Cicatricial Stenosis.—Borchers expatiates on the advantages of the special sound he uses for this purpose. It is 1.5 meters long and tapers smoothly from 1.5 mm. at the tip to 1 cm. at the base. It is used in connection with the endless silk thread drawn out through an opening into the stomach, in correction of stenosis of the esophagus.

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*Treatment of Postoperative Tetany with Parathyroid Grafts. F. Landois.—p. 74.
*Removal of Half of Horse-Shoe Kidney. G. Magnus.—p. 76.
Technic for Correction of Equinus Contracture after Amputation in Tarsus. A. Wachter.—p. 78.

Transplantation of Parathyroids in Treatment of Tetany.—Landois' experiments with parathyroid grafts in thirty-five dogs showed that only the autoplastic operations were successful, and not all of these. Even at the best, the transplanted parathyroids have only a transient functional action, as they are soon absorbed. At the Breslau clinic there was only one case of tetany after thyroidectomy in ten years, but then came five cases in the last five years, fatal in one instance. As the spasms were continuous and the man was unconscious, three parathyroids were implanted, and essential improvement followed at once. It lasted, however, only nine days; the spasms then returned and soon proved fatal. Landois reiterates in conclusion that the parathyroids are not secreting organs, but glands which serve to neutralize the toxicity of certain injurious substances in the body. Hence treatment with parathyroid has little chance of sucess. Any treatment with established tetany is uncertain.

Heminephrectomy of Horseshoe Kidney.—Magnus found that the tuberculous process was limited to the right half of the horseshoe kidney, and he resected this alone. There was surprisingly little hemorrhage, and clinical recovery soon followed. The abnormal shape of the kidney was not suspected until it had been exposed.

Zentralblatt für Gynäkologie, Leipzig

Jan. 17, 1920, 44, No. 3

*To Arrest Hemorrhage with Placenta Praevia. P. Mathes.—p. 57.
Sweat Gland-Tissue Cancroid in Vulva. J. Schiffmann.—p. 59.
Nature of Sacral Pain. J. Novak.—p. 64.
Pituitary Treatment of Amenorrhea. R. Hofstätter.—p. 68.
Twilight Sleep in Obstetrics. P. Feldmann.—p. 74.
Transverse Septum in Vagina Impeding Delivery. T. Micholitsch.—p. 84.
History of Experimental Hermaphroditism. A. Foges.—p. 87.

Central Placenta Praevia.—Mathes knows of only twenty-two cases of placenta praevia centralis on record and adds another to the list. The fatal hemorrhage in such cases usually comes on separation of the placenta, so that the third stage of labor is the dangerous one here. He pleads for more energetic management of the case, pointing to his success with tying a thread around the tissues, just above each bleeding point, after the cervix had been opened up wide with speculums, after removal of the placenta. The placenta had been easily removed from above the cervical ring; below this it had to be pried loose, a scrap at a time. The hemorrhage at first had been so severe that the idea of cesarean section had to be abandoned as there was no time to prepare for it, and drawing down the foot arrested the bleeding. Waiting for the placenta to separate spontaneously, he says, has cost many lives, but with this method no fatal hemorrhage should occur from this cause, in a maternity at least. Pituitary and ergot should be given to insure good contraction of the uterus, the placenta then separated by hand under direct visual inspection, and each bleeding point tied off with a thread run around centrad.

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*Carcinoma Dose of Roentgen and Radium Rays. L. Seitz and H. Wintz.—p. 97.
Exudates in Pouch of Douglas with Appendicitis and Adnexa Disease. A. Mueller.—p. 109.
*Laminaria. K. Hoffmann.—p. 111.

The Unit of Cancer-Cell Destroying Action in Irradiation.—Seitz and Wintz have been studying the amount of roentgen and of radium rays required to destroy the cancer cell. They call this the carcinoma dose. It is equivalent to 100 to 110 per cent. of the skin unit dose (H. E. D.) which they accept as the amount of rays with 0.5 mm. zinc filter which, applied at a distance of 23 cm. from the skin, induces slight redness after eight days and a brown tint by the third to sixth week. Calling this 100 per cent., the carcinoma dose is 100 to 110 per cent.; the lowest limit is 90 per cent. It thus corresponds to the older conception of the erythem dose, but it does not vary, like the latter, with the susceptibility of the skin. Radium causes rapid necrosis of the cancer cell, while the destructive action of the roentgen rays is slower and more gradual, but the final result is the same with both, although the radium action is a close-up and the roentgen action a distant one. To destroy a cancer of the cervix over an area 3 cm. in circumference requires about 100 mg. radium element for thirty-two hours. When the amount of radium element was increased to 140 mg. and the exposure lengthened to thirty-four hours, with a 3 cm. cancer, the rectum suffered and a burn resulted. On account of the close contact and the biologic effect, the dose cannot be estimated by mathematical calculation as it might be if the distance were the same as with the roentgen rays. They advise that the dose of 100 mg. radium elements should not be surpassed unless the tumor is larger than 3 cm. and the bladder and rectum are thus pushed farther away, to a distance which weakens the effect of the rays, so that the sound tissues are left still capable of regenerating. To increase the distance, they keep the gamma ray filtered preparation in a wooden capsule, 4 to 7 mm. thick, with a thin coating of aluminum, and a glass cover. This holds the radium about 10 mm. apart from the tissues, and sometimes the cervix has to be dilated to introduce this bulky capsule.

Removal of Laminaria.—Hoffmann passes a loop of stout cord horizontally around the end of the tent as this projects from the cervix. Tweezers or some other small instrument is tied to the ends of the cord projecting from the vulva. By this firm hold and cross-bar handle, the laminaria can be easily pulled out.

Zentralblatt für innere Medizin, Leipzig

Jan. 31, 1920, 41, No. 5

*Experimental Pulmonary Edema. E. Laqueur and D. de Vries Reilingh.—p. 81.

Experimental Pulmonary Edema for Teaching Purposes.—Laqueur and Reilingh expatiate on the advantages of inducing osmotic edema in rabbits, and then practicing percussion and auscultation on them and comparing the findings with the pathologic anatomy. They induce the edema by intratracheal injection of 5 or 20 c.c. of physiologic sodium chlorid solution.

Hygiea, Stockholm

Feb. 16, 1920, 82, No. 3

*Otitis Media and the General Practitioner. R. Bárány.—p. 81.

Otitis Media.—Bárány insists that the symptoms from acute otitis media which call for immediate operation during the third week do not have this significance during the first week. Only when they keep up after paracentesis, and grow worse, is the operation demanded. The bone is still hard, and to get into sound bone merely spreads infection. It is better to wait till the third or fourth week unless chills or meningitis force earlier intervention. The practitioner must realize further that there may be a destructive process in the mastoid process from an otitis media that has never required paracentesis. The ear may have healed while the mastoiditis is progressing. If the mastoid is tender from the start, the probabilities are that an operation will be necessary, but this is not inevitably the case. In one woman of 50 with 8 per cent. sugar, a large abscess in the mastoid process accompanied otitis media, and the auditory canal was filled with pus and granulations. The ear was treated with Burow's solution and thorough rinsing, while the sugar was being reduced with antidiabetic diet, to prepare for the operation. But in two weeks the abscess had disappeared and the hearing and the drum seemed to be normal. The physician should therefore be guarded in his prognosis, but the possibility of the bacteria dying off and the abscess healing spontaneously is too remote to deter from operating. Even with paracentesis he advises to temporize for a few hours, as spontaneous improvement may be observed. High fever in children in itself does not demand an immediate operation. In treatment of otitis media, he advises thorough but gentle rinsing out of the ear, saying that he does not think it possible for water to be forced into the internal ear, by this means, so that the dread of inducing labyrinthitis or meningitis is unfounded. He warns, however, that no water must be left in the ear as this provides a culture medium for germs. After rinsing, the ear must be thoroughly dried with cotton.

After the operation, he sutures the wound except for one small opening which he plugs with a rubber finger stuffed with gauze. This cigarette tampon is removed the next day, and a drain is inserted in its place made of rubber tissue rolled into a 2 or 3 mm. thick drain, which answers the purpose ideally. With chronic otitis media, the main contingents for operation are cholesteatomas in the middle ear, and for this he applied what he calls the "conservative radical" operation in 70 per cent. of his fifty-five cases and the hearing was considerably improved in all but two instances. This technic is being applied now extensively in other clinics.

Ugeskrift for Læger, Copenhagen

Jan. 22, 1920, 82, No. 4

Value of Dietaries in Different Countries. P. Heiberg.—p. 97.
Habitual Displacement of Head of Fibula. F. Teilmann.—p. 110.
*Treatment of Sterility in Women. C. Baastrup.—p. 111.

Treatment of Sterility in Women.—Baastrup is convinced that excessive acidity of the vaginal secretions may be responsible in some cases for sterility, by injury of the spermatozoa from the overacid environment. This assumption was confirmed in one case by conception following the use of a vaginal douche of a weakly alkaline fluid: a tablespoonful of a 2:1,000 solution of sodium hydroxid in a pint of tepid water.

Correction.—In the abstract on page 1860 of THE JOURNAL for Dec. 13, 1919, from Tecon's article on "Trauma and Tuberculosis," part of a sentence was left out by mistake. The sentence should read: "Sergent and Mantoux found only 9 and 5 per cent. with pulmonary tuberculosis after contusions *and penetrating wounds* of the chest while Tecon's proportion was 42 per cent." The italics are the missing words. The proportions after contusions alone were 55.5, 38.9 and 60 per cent., respectively.